DISS
1297
COM

Computer Guided Math For Class 10th

By

Hadayt-Ullah

&

Syed Zahid Ali

A project report submitted to Quaid-I-Azam University as a partial fulfillment of the requirement for postgraduate diploma in computer science .

COMPUTER CENTRE

QUAID-I-AZAM UNIVERSITY

ISLAMABAD.

MAY, 2002.

بسم الله الرحمن الرحيم

IN THE NAME OF ALLAH,

THE BENEFICIENT,

THE MERCIFUL.

DRSM LIBRARY
Quaid-i-Azam University
Reference Section

DISS
1297
COM

COMPUTER CENTER

QUAID-I-AZAM UNIVERSITY

ISLAMABAD

FINAL APPROVAL

It is certified that we have read the thesis submitted by Mr.Hadayt-Ullah & Syed Zahid Ali and it is our judgement that this thesis is sufficient standard to warrant its acceptance by the Quaid-I-Azam University Islamabad, for the award of Post Graduate Diploma in Computer Science.

COMMITTEE

1- EXTERNAL EXAMINER ----------

2- SUPERVISOR ----------
Mr. Abdul Subhan
Computer Center
Quaid-I-Azam University
Islamabad.

3-DIRECTOR ----------
Dr.Ghulam Muhammad
Computer Center
Quaid-I-Azam University
Islamabad.

DEDICATION

TO

OUR PARENTS

WHO HAVE PUT ALL THEIR

EFFORTS TO MAKE US STAND

WHERE WE ARE TODAY.

ABSTRACT

This project was offered so as to develop a computer based package to aid the teaching of mathematics to matric level students. It covers the entire Mathematics course prescribed by the Federal Ministry of Education, Govt of Pakistan, Islamabad.

This package is entirely menu-driven , the user-friendly environment and this facilitates learning for student. It will provide exam practice with actual examination objective type question.

There are multiple choice questions with four possible answers; each possible answer is represented by option A, B, C, and D widely used in secondary school exam. However they do not test the skill of required by the National curriculum and are rarely used in secondary school exam.

We know that exam success is not about having a lot of knowledge . But it is about the ability to apply your knowledge and skills in exam questions. The best way of improvement is doing practice these questions.

ACKNOWLEDGEMENT

All acclamations to Allah, who has empowered and enabled us to accomplish the task successfully.

We wish to express our sincere gratitude, heartiest obligations and appreciation to our respected supervisor Mr. Abdul Subhan for his ample guidance, valuable support and specially the caring for us. We will never forget the warm companion of all our class fellows and friends, for their encouragement, moral supports and kind of co-operation during our stay at university.

And at last but not least ,we would like to admit that we all our achievements to may truly, sincerely and most loving parents who most to us and whose prayers are source of determination for us. We can't forget our Brothers, respectable sisters , wives, and loving relatives the way they encouraged, helped and guided us at every stage of our life.

Hadayt-Ullah

&

Syed Zahid Ali

May, 2002.

PROJECT BRIEF

Project Title:	Computer Guided Math For Class 10^{th}.
Objective:	Computer Guided Math For Class 10^{th}.
Under Taken By:	Hadayt-Ullah & Syed Zahid Ali.
Supervised By:	Mr . Abdul Subhan .
Starting Date:	March , 2002 .
Completion Date:	May, 2002 .
Language Used:	Oracle7/Developer 2000.
System Used:	Pentium-III
Operating system:	Windows. 98

PREFACE

This project report is concerned with analysis, design, development and implementation of computerized guided math for class 10^{th}.
The active report consist of seven chapters followed by appendices and bibliography.
The first chapter gives an introduction of the topic, student's problems, drawbacks of existing system and objective of proposed system.
The second chapter gives detail about textbook, course outline syllabus, syllabus included by ourselves and list of boards for secondary school examination.
The third chapter explains the proposed system and fourth chapter is about system design. The fifth chapter explains the system development. Sixth chapter describes the implementation phase and evaluation of the system. The last chapter is written for user's guide
Appendices show the diagrams and layout of different forms and reports related to the system. Bibliography contains the list of book reference during the project.

LIST OF CONTENTS

Chapter

1

INTRODUCTION TO THE TOPIC

1.1 INTRODUCTION:

Nowadays the whole world is moving towards more and ever more computerization. The advantages having so much information on-line is leading to the extinction of encyclopedias and text books...in essence.

It is creating the paper less environment. Therefore project is on-line with current trends and needs of the day.

The manual system, in which teachers follow a prescribed textbook and adopt to certain method of teaching and testing the ability of the students, can be replaced by on-line tutorial that can be used by any student.

Mathematics has the most common relationship with science subjects. Its learning and knowing of basic concepts are very necessary for the every person. Every person uses the logic of mathematics in his life. So it is the reason that learning of mathematics is compulsory from beginner up to matric level in each educational Policy.

1.2 STUDENT'S PROBLEMS:

- It is a natural fact that if you understand some thing that you have learnt some thing and feel happiness. A boy/girl or person who is in the age of learning he/she is called student. In mathematics mostly students felt problems in objective type questions.
- Giving answers in short field of time.
- Choice of the correct answer with similar options.
- Hate learning of math due to unapproach the solution of problems.
- Old teaching methods e.g. use of chalk and blackboard.
- Feel hesitation to the properties of the basic concept of geometrical figures.
- Mostly students loose their marks in objective type questions.

1.3 DRAWBACKS OF EXISTING SYSTEM:

There are so many drawbacks in the existing system but in which some of them are described below.

- The old teaching method is used to teach the student. The teacher is whole and its described words are last. There is no importance of student suggestion.
- Teachers apply their strict rules of discipline in the school and class environment; no student can be asked any question about the subject or topic. The student are very emotional by this behaviour of teacher, it's learning ability is suppressed.
- A teacher is the part of the society. He has its own problems to solve own problems he requires leave. In the absence of teacher student squander their time.
- According to examination point of view, the some questions are given in the book is reproduced word by word in the exams. This cycle totally discourages student from venturing out side its safe boundary. To memorize the given questions alongwith their answers is sufficient to pass the exams. This examination system emphasis on subjective type questions. But nowadays in advance countries the examination system is objective type.
- The manual system tests the students only two times in the school year period by which learning process can not be judged.
- Homework is assigned from the textbook. Students are supposed to solve the problems at home. Mostly students complete their notebook by copying. So it is a time consuming procedure.
- Teacher place more emphasis on learning by note. The end result is that the pupil loses all interest in the subjects and comes to regard it as drudgery.

1.4 OBJECTIVES OF THE PROPOSED SYSTEM:

The proposed computerized system is the solution for most of these problems. In addition to the basic requirement of the package. It also has many attractive features, this package would

- Cater to different levels of achievement among student by presenting topics with varying degrees of difficulty.

- Students make the question and find its solution by himself practice.
- With the help of this project they learn the definition of basic properties of geometrical figures.
- Data entry and validation.
- Codes will be designed to reduce the typing and storage.
- Implementation of checks and methods which will ensure validity of data.
- Processing the different type of transaction.
- Redundancy of data should be eliminated in order to avoid inconstancies of the data.
- Production of several kinds of reports in a very simple and concise manner.
- Student gets the knowledge through the new system. It is also requirement for the examination point of view.
- By objective type examination system, whole syllabus can be covered.
- Effective use of technology for the testing and evaluation of student.
- It can be used to enhance learning through research.
- Providing engaging opportunities for student.
- Encouraging teachers to work in teams, problem-solve and participate in peer review of their units.
- Encourage student participation by co-operating question-answer sessions at each step. This interactive environment will maintain student interest.
- By using the sub test form, which will provide feedback to the student by displaying message. Also students record will update the system with correct and incorrect answer in a file. Thus the system will keep track of a student progress.

CHAPTER 2

ABUOT TEXT BOOK AND GUIDED MATH

2.1 TEXT BOOK

Federal Board Of Intermediate And Secondary Education Islamabad for secondary classes prescribes it, which is prepared and published by Punjab textbook Lahore.
It's curriculum is approved by Federal Ministry Of Education, Govt. of Pakistan Islamabad. It contains the large number of solved and unsolved problems. The treatment of subject is quite simple and modern.

The book contains fourteen chapters; these chapters are basically deals with main branches of Mathematics Algebra, geometry and Statistics.

2.2 COURSE OUT LINE OF TEXTBOOK :

Mainly it is divided into three section

- Algebra
- Geometry
- Statistics

2.2.1 Algebra

It contains the following topics

- Operations on sets, Cartesian plane, Binary Relation.
- Systems of Real Number, Exponent and Radicals.
- Algebraic expression.
- Factorization, Greatest Common Divisor and Least Common Multiple.
- Algebraic Sentences.
- Concept of Matrices.
- Quadratic Equations In One Variable.
- Elimination.

- Logarithms

2.2.2 Geometry

This section contains the following topics

- Fundamental Concepts Of Geometry.
- Circles.
- Practical Geometry.
- Trigonometry.

2.2.3 Statistics:

It contains the only one topic

- Information Handling.

2.3 COURSE INCLUDED BY OURSELVES:

Mostly part of the textbook is included in the computerized system of Computer Guided Math For Class 10^{th}.
The following are the main heading of syllabus included in it.

2.3.1 OPERATION ON SETS, CARTESIAN PLANE, BINARY RELATIONS.

- Some important sets.
- Subset
- Improper Subset.
- Equal sets.
- Power set.
- Fundamental Properties of Union.
- Difference of sets.
- Cartesian Product.
- Binary Relation.

2.3.2 SYSTEM OF REAL NUMBERS, EXPONENT AND RADICAL:

- Recurring decimal fraction.
- Properties of real number.
- Properties of equality of real number.

2.3.3 ALGEBRAIC EXPRESSION :

- Variables and constants.
- Kinds of algebraic expression.
- Kinds of polynomial expression.
- Order of algebraic expression.
- Value of algebraic expression.
- Formula $(a + b)^2 = a^2 + b^2 + 2ab$.
- Formula $(a - b)^2 = a^2 + b^2 - 2ab$.
- Formula of $a^2 - b^2 = (a + b) (a - b)$.

2.3.4 FACTORIZATION, G.C.D AND L.C.M:

- Factorization of algebraic expression.
- Factorization of expression of the type $ka + kb + kc$.
- Factorization of the type $X^2 + PX + Q$.
- Factorization of the type $a^2 - b^2$.
- G.C.D (Greatest Common Divisor) of algebraic expression with degree 2.
- L.C.M of algebraic expression with degree 2.
- Addition and subtraction of fraction.

2.3.5 ALGEBRAIC SENTENCES

- Uses of equation in problems.
- Absolute value of a number.
- Inequations.
- Algebraic method of solving two simultaneous equations.

2.3.6 QUADRATIC EQUATIONS IN ONE VARIABLE:
2.3.7 ELIMINATION:
2.3.8 FUNDAMENTAL CONCEPT OF GEOMETRY AND CIRCLE:

2.4 LIST OF EXAMINATION BOARDS:

The above-prescribed textbook syllabus is valid for the following educational examination boards.

1: Federal Board Of Intermediate And secondary Education Islamabad.
2: Board Of Intermediate And Secondary Education Muzaffarabad(Azad-Kashmir).
3: Board Of Intermediate And Secondary Education Rawalpindi.
4: Board Of Intermediate And Secondary Education Sargodha.
5: Board Of Intermediate And Secondary Education Gujrat.
6: Board Of Intermediate And Secondary Education Fasialabad.
7: Board Of Intermediate And Secondary Education Lahore.
8: Board Of Intermediate And Secondary Education Multan.
9: Board Of Intermediate And Secondary Education D.G.Khan.
10: Board Of Intermediate And Secondary Education Bahawalpure.

CHAPTER

3

THE PROPOSED SYSTEM

INTRODUCTION:

Computerization means a change over from a manual system to a computer-based system. Since over existing system is working manually of teaching and testing, so to computerize it, it is essential to develop a logical model for the porposed system the detail study and experience of teaching are the basics of the proposed system. In addition various result of test maintaining documents and reports prepared for parents and progress of student in his study and problem faced by the class teacher and subject teacher.

The objectives of the proposed system should clearly be defined and newly designed should meet these objectives. The proposed system is computerized and has electronic data processing which make the system more efficient, economical reliable and error free.

Proposed system has all those characteristics and techniques that will make system capable of achieving the desired goals and objectives. This chapter explains the objectives of the proposed system, Its differences from the existing system, input of the system and describe the software and hardware selection.

3.1 AIMS OF THE PROPSED SYSTEM:

Successful database, it is most important that it satisfied the user requirements. Most projects fail due to unreasonable not defined clearly. Before designing any computer based system, it is important and helpful to establish the objectives that a computer based system should be satisfied.

The main goal of this project is to design and implement a system which data entry and report generation is possible which help the subject teacher, administration and parents.

Following objectives are kept in mind which proposing the system.

- The new system should be efficient. It will be implemented on the server net work of the school. The data will be stored in the hard disk that will be used for testing of the student's modification, deletion and retrieval.
- It should be error free and reliable.
- It should be user friendly and provide help to user where necessary.
- Queries will be answered by just clicking on button.
- The proposed system should be facility of varies reports.
- The proposed system should be nice and simple for user.
- To make data reliable, data validation checks should be provided in the system .
- Security will be provided in the system. So that only authorized person could get the access.

3.2 FEATURES OF THE PROPOSED SYSTEM:

This section previews the characteristics of the proposed system.

- Code formation
- Menu based system
- User interface
- Input specifications
- Output specification
- Queries
- Reports
- Checks
- Flexibility
- Software selection
- Hardware considerations

3.2.1 CODE FORMATIONS:

To minimize the storage requirements for storing data and removing textual errors, codes are designed.

3.2.2 MENU BASED SYSTEM:

Proposed system will be menu based. A main menu will be displayed first with option user can select any option according to his requirements. In this way, this system will become easy to use.

3.2.3 USER INTERFACE:

The most important aspect for the success of any system is that it must be very attractive to the user. i.e. system must be user friendly, for better and attractive user iteration; options are displayed in well-designed manner. In put screen is designed in a way that the user will fell easy while entering data. Very small number of entries would be entered by keyboard.

The use of keyboard will be very minimized. Most of the entries will be filled by just selecting are of the listed options. Some input are constant for each record. They will be entered in the system once there is no need to enter them again and again.

3.2.4 INPUT SPECIFICATIONS:

The use of keyboard will be very minimal. Most of the entries will be filled by just by selecting one of the listed options. Some inputs are constant for each record. They will be entered in the system once then there is no need to enter them again and again.

3.2.5 OUTPUT SPECIFICATIONS:

The outputs of the system are in the form of reports to be printed on the paper and queries to be displayed on the screen.

3.2.6 QUERIES:

One major purpose of establishing a database is to retrieve information quickly and efficiently. Queries are the standard that retrieves the

information on the screen in any combination i.e. data within various fields of table can be displayed in any combination. Queries in the proposed system have been provided, keeping in mind, the questions that may be arise in the user minds regarding retrieval of desired information from the system.

3.2.7 REPORTS:

Reports are also a form of query that is printed on paper. The reports produced by the system are well formatted, detailed and according to the user requirement. The report could also be helpful for the management of institution progress as well as individuals progress.

3.2.8 ON LINE HELP:

The proposed system is designed in such a manner that it will provided on line help to the user. Any user can operate such a system easily. The system will be given by the system in wrong inputs or in some other errors.

3.2.9 CHECKS:

Various checks are implemented in the system particularly data entry, updating and deleting the module to ensure data validity, integrity and consistency. These checks will prevent the user from entering data. Some checks are build in and some are self determined.

3.2.10 FLEXIBLITY:

There is flexibility to extend or enhance the software in order to meet the new needs of the education and administration. This software can be extended and applicable on other subjects also.

3.3 SOFTWARE SELECTION:

Software selection is very important and it depends upon the problem that you are going to solve. There are three aspects of database. Input, output and the program that manages all the options and storage of information. Out of these three programming is the most important as it controls both input and output activities and storage of information inside the database. Thus it

is very important to choose a suitable software. Different languages and packages provided different features. After a lot of combinations oracle/developer 2000 fourth generation language is selected for the development of the proposed system because it is fully relational database package.

3.3.1 ORACLE:

The oracle RDBMS is selected due to following features.

PORTABILITY:

Oracle can run on wide Varity of machine.

SECURITY:

Oracle allows controlled access to the database. It protects data from unauthorized access.

BUILD IN FUNCTIONS:

Oracle provides wide variety of build in functions for example executes the query option.
By selecting two options, a user can make any of the database fields and corresponding information will be appeared on the screen. Single as well as multi user environments which allows user to share existing programs and data frequently.

3.3.2 RDBMS:

The RDBMS (Relational Database Management Systems) is a high-performance database management system. Specially designed for on-line help, transaction, processing and data base application.
The data is mostly manipulated in the SQL language, which is considered to be the heart of the RDMS. Its popularity is due to its ease of use, flexibility and capability. The SQL language is divided into four categories.

- QUERIES:

  Queries are the statements that retrieve the information on screen.

- DATA MANIPULATION STATEMENTS:
  Which are used for insert, deletes and modifies.

- DATA DEFINITION STATEMENTS:
  Which are used to define, maintain and drop data base objects, which are no longer, needed including tables.

- DATA CONTROL STATEMENTS:
  Which are used to access to the database as well as its data.

3.4 HARDWARE CONSIDERATION:

The hardware and operating system requirements for the proposed system are

Main processor: 500 MHz.
Main memory : 128MB.
Hard disk : 8.4GB.
Monitor : VGA Color digital monitor.
Printer : Dot Matrix/Laser printer.
Operating System: windows.98.

Chapter

4

SYSTEM DESIGN

4.1 INTRODUCTION:

Design phase is based on the information gathered during analysis of the system. System design is the most challenging job of all the phase in the system life cycle of the project.

Analyst has to plan a new system, which should meet the requirement of the organizations. Before developing any system, it is very important to sketch preliminary specification and with the help of these specifications and analysis draw a detail design which should consist of input details, out put reports and layout of all database files and their relationships. Hence software design is a process through which requirements are translated into a representation of software, economy, reliability and modularity should be taken into account in design. These requirements may be best achieved with modest start and careful testing of each phase before processing to the next.

4.2 SYSTEM DESIGN:

The advance information has well of minimizing the cost of the information and processing, therefore a more practicable and effective approach to design a system has been developed. According to this approach all information need and user are defined and organized before system design.

For convince, system design can be divided into four phase.

4.2.1 Input design.
4.2.2 Output design.
4.2.3 Database design.
4.2.4 Procedure design.

4.2.1 INPUT DESIGN:

Input is the information that is required from the user for further processing by the system. Input design is more important for any computerized system because there is lot of information to be entered correct input design gives convince to the user in entering data and restricting incorrect to form input design very carefully.

Following are the steps to make input design efficient.

INPUT FORMS:

Forms are the most commonly used dialogues for data entry. Various input forms have been assigned for correct information into the database. Data can be retrieved, displayed and edited after entry using the same form.

The most important factor kept in mind while designing forms is that entry forms should be users friendly.
Attempt has been made to model screen such that it resembles the existing paper form.

- **CODE DESIGN:**

The data input to a computer eventually has to be retrieved to reduced redundancy and make data entry easier pneumonic coding scheme has been adopted. This is not only preserves the disk space but also decrease the probability for entering incorrect data.

- FIXED LISTS:

While designing form, it is kept in mind that user would have to enter minimum number of entries for this purpose, list of all possible value are provided in most entries, user can select any value form the list.

- VALIDATION CHECKS:

To assist the user to enter the correct values different types of validation checks are implemented.
Due to this, user can not proceed further until he enters the correct information.

4.2.2 OUTPUT DESIGN:

The input design constitutes an important part of any computer system, because end user is more concerned with the result and screen format, rather then the design and working of the system. The output is in the form of reports and queries.

In designing output following steps are help in mind.

- It should be good looking.
- It should be user friendly.
- It should be easy to understand.
- It should be well formatted.
- Purpose of output should be clearly mentioned.
- Output should be precise and without unnecessary information.

There are two types of output design
1. Screen output (Queries)
2. Printed output (Report)

SCREEN OUTPUT (QUERIES):

Queries are the statements that retrieve information in any combination or order.
In screen output, the output is displayed on the screen in the response of a query. User enters a query based on certain input criteria and its output is displayed. This output should be precise, appropriate and effective.

PRINTED OUTPUT (REPORTS):

Report is also a form of query; the only difference is that it is in the printed form(in the form of hard copy). The reports of proposed system are designed, there are simple, meaningful and information.

Following reports are produced by the system.

- List of topics included in the system.
- List of topic and only questions included in the system.

Some reports are shown in Appendix .B

4.2.3 DATA BASE DEDIGN:

Physical data base design consists of data base tables, which are interlined.

- Data redundancy should be minimized.
- The table should provide fast retrieval of information.
- The record should be capable of updating. The system should continue the following data table.

1. Data tables.
2. Student reply table.

DATA TABLES:

Data tables are used to store and retrieve information. Following data tables are used in the system.

Table No.1.

Table Name: Topic.

Primary Key: T_ID.

Purpose: This table stores information about the topics of syllabus, which is included for the system to the user for the preparation of test.

SPECIFICATION:

srno	Field name	Type	Length	Description
1	T_ID	Number		Topic identity
2	T_Desc	Varchar2	70	Heading of topic

Table No.2
Table Name: Question.
Primary Key : Q-ID.

Purpose: This table shows the multiple choice type of question, and its four answers with options in the form A, B, C And D. And also has the correct answers option.

SPECIFICATION:

Sr.No	Field Name	Type	Length	Description
1	Q_ID	Number		question identification
2	T_ID	Number		foreign key from table
				topic.
3	Q_Desc	varchar2	70	Question Text.
4	Ans 1	varchar2	50	Answer for option A.
5	Op 2	char	2	option A.
6	Ans 2	varchar2	50	Answer for option B.
7	Op 2	char	2	option B.
8	Ans 3	varchar2	50	Answer for option C.
9	Op 3	char	2	option C.
10	Ans 4	varchar2	50	Answer for option D.
11	Op 4	char	2	option D.
12	C-A	char	2	Type the option of the
				correct Answer.

TABLE-NO .3

Table-Name : Tip

Primary key : SR NO.

Purpose. This table stores the information about the tittle of sub topics of text used in the system with their text page no. If user want to see help on the text in the shape of examples.

SPECIFICATION:

Sr.No	Field Name	type	Length	Description
1	SRNO	Number		serial No as primary
				key.
2	T-ID	Number		Foreign key from
				table topic.
3	T-P-N	Number		Text page No.
4	Tittle	varchar2	50	Sub heading of topic
				included in the system

TABLE NO.4

Table Name: student.
Primary Key: RNO.

Purpose. This table store information about the users.
SPECIFICATION:

Sr.No	Field Name	Type	Length	Descriptions
1	R NO	Number		Roll No of class.
2	Name	Varchar2	40	Name of user.

TABLE NO.5

Table Name: SR.
Purpose: This table store information after the completion of the question by using his selected option on the test form.
SPECIFICATION:

SR No	Field Name	Type	Length	Description.
1	Q_ID1	Number		Question identification.
2	R NO1	Number		Roll No.
3	C_A 1	Char	2	Correct Answer.
4	S_O1	Char	2	Selected option.

4.2.4 PROCEDURAL DESIGN:

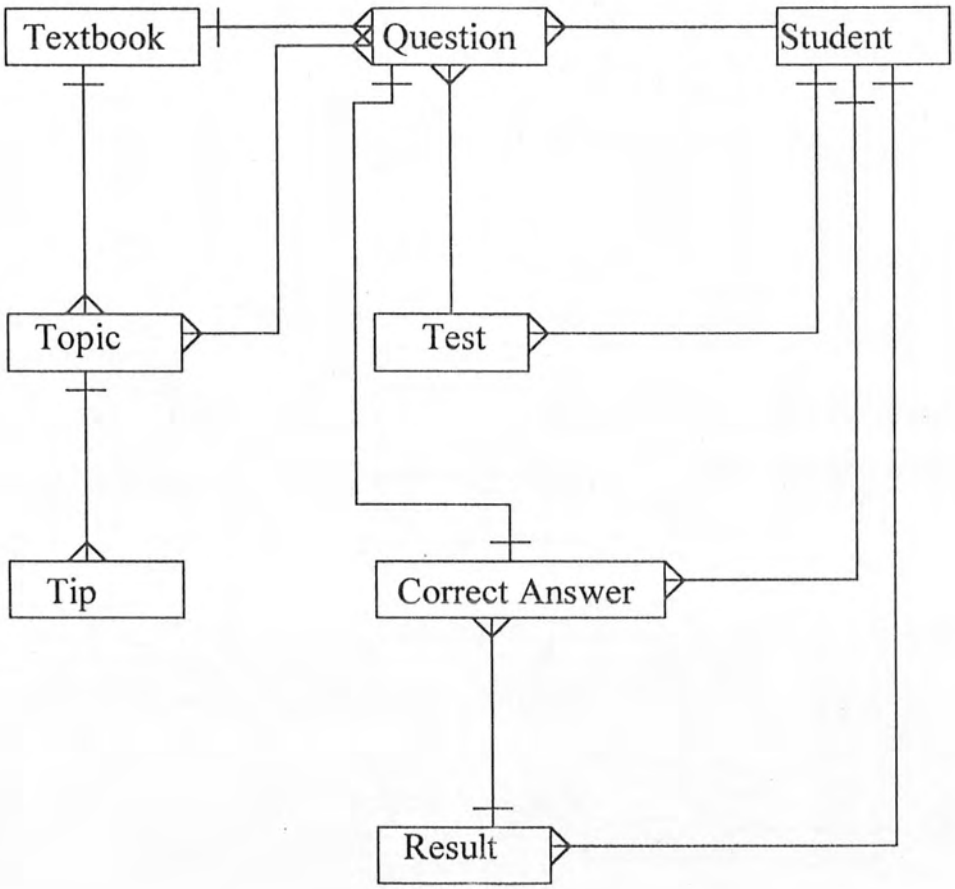
It occurs after data, architectural and interface design have been established. Procedure design must specify procedural detail unambiguously.

In an ideal world the procedural specification required to define algorithmic details. Would be started in natural language such as English and lack of ambiguity in a natural language is not natural deferral techniques are used to represent procedure details.

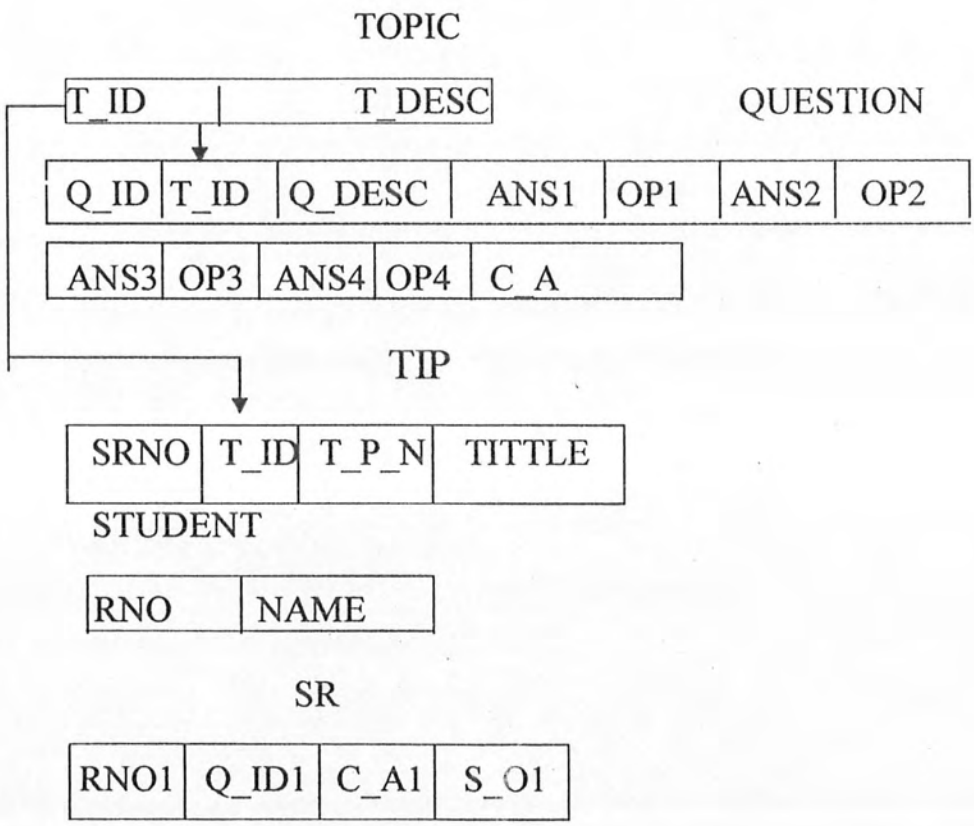
- Structured programming
- Graphical design notation
- Tabular design notion
- Program design language

4.3 ENTITY RELATIONSHIP DIAGRAM(ERD):

The primary purpose of ERD is to represent entities and their relationships with one another ERD of our proposed system is given below.

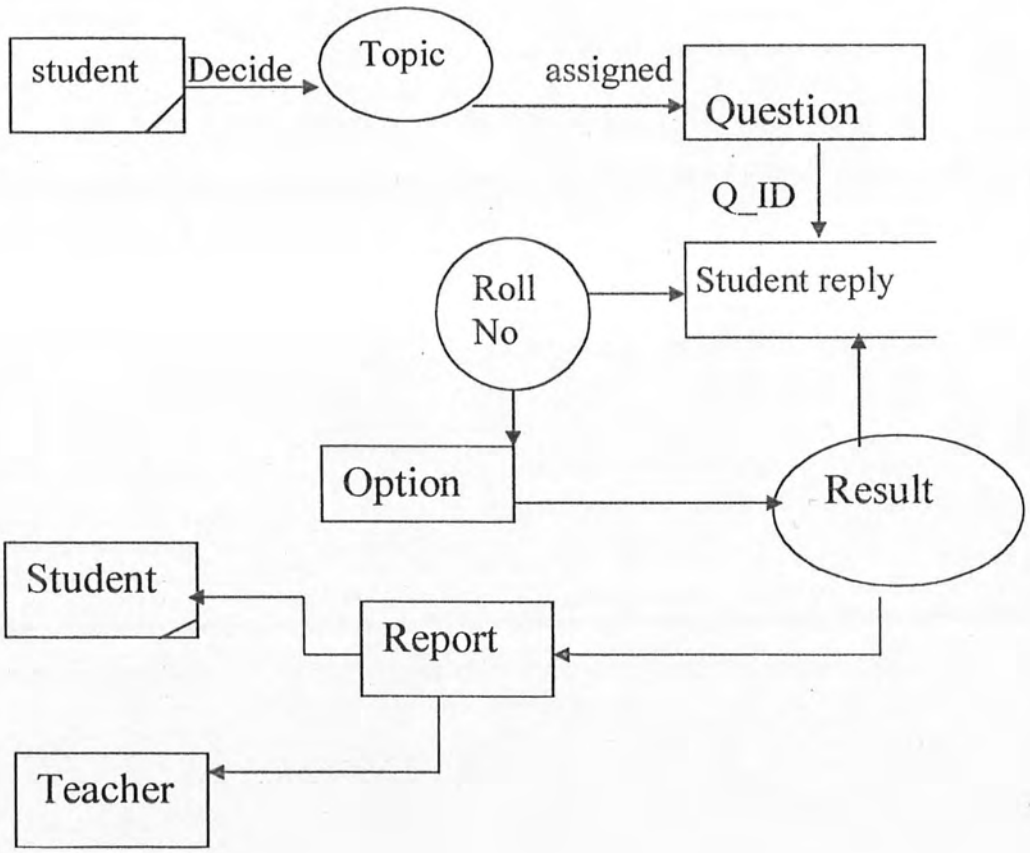


4.4 BATCHMAN DIAGRAM:



4.5 DATA FLOW DIAGRAM (DFD):

It is a graphical representation that depicts information flow and transforms that are applied as data more form input to output.



4.6 PASSWORD:

The password for the system will be implemented for security purpose. Whenever a user will logon, he would have to provide identification by typing his password. Such users are called registered users. This password is vary important factor for security of data.

4.7 HELP LIST:

Oracle provides a facility to display a list of valid values for correct data entry on any defined field.
This approach has been adopted to avoid confusion in data entry for the particular field.

Chapter
5

SYSTEM DEVELOPMENT

5.1 INTRODUCTION:

Once a system is proposed and design its development phase starts which involves the realization of the actual system. In the development phase, software is built to meet the proposed and designed specification. During development phase developer attempts to describe how data structure and software architecture are to be designed, how procedural details are to be implemented, how the design will be translated into programming language and testing will be performed.

This phase is more practical and important because it involves the relation of actual system and it meets the requirements of the management.

5.2 DEVELOPMENT APPROACH :

There are several development approaches used in developing the system now a days. These are

- Top down approach
- Bottom-up approach
- Mixed approach

5.2.1 TOP DOWN APPROACH:

In this approach, the development with a scheme containing high level abstraction and successive top-down refinement are applied for example a main program is design first and then its-modules are written

5.2.2 BOTTOM-UP APPROACH:

The developer starts with a scheme containing basic abstraction and then combines these abstractions. For example all sub modules are written first and tested and then all these modules are link with main module.

5.2.3 MIXED APOPROACH:

In this scheme, inserted of following any particular approach throughout the design the requirements are partitioned while using top-down approach and part of scheme is designed, for each partition using bottom-up approach, then varies scheme parts are combine.

APPROACH USED:

Out of all these approaches. I have selected the bottom–up approach. In this approach, the programs are separately developed and checked and after that they are linked with main module.
The importance of this approach is that each and every module can be tested separately and then linked with main menu to ensure that the system is error free.

5.3 SOFTWARE SELECTIONS:

One of the most difficult task after the system requirement is known as to determine whether particular software is capable of meeting the system requirements.
After studying characteristics of each type of data base, like the storage factor and access paths DBMS supports, the type of user interface, it was decided to use the relational data base system for the proposed system.
After considering a number of related data base management systems available these days ORACLE was selected the major features that result in selection of ORACLE for the development if application are as follows.

- MULTI USER SOFTWARE:

The most important feature is that it is multi user software. The application development in ORACLE can be connected together into a powerful distributed data base environment.
It provides a powerful client/server relationship between the server and the user terminals.

- SECURITY:

Oracle provides strict security of application developed in the package by enforcing user name and password with out password it is not possible for any body to access the system. It is also possible to grant different type of access of different users.
For example updating, addition or deletion rights may be provided to the select persons while the others may be allowed to view the records.

- PORTABLITY:

ORACLE (RDBMS) is fully portable over 80 distinct hardware and operating system platforms including VMS, MVS, UNIX, MS-DOS etc. In developer 2000, we can convert out binary file to text file, which is independent of platform.

- ORACLE PRODUCTS:

ORACLE provides a number of sophisticated tool for the development of application SQL* PLUS, SQL*FORMS, SQL* MENU, SQL* REPORTS are the distinguishing tools of ORACLE.

- SQL * PLUS:

SQL* PLUS is an interface through which SQL commands may be entered and executed.

- FORMS:

Forms produce facility to design forms. These forms provide fast and easy data entry, updating, deletion, and queries to an ORACLE database.

- MENU:

Menu is used to construct the user friendly menu interface to any software application.

- REPORT:

Report writer can be used to create an ordinary letter or tabular report.

- PROCEDURAL LANGUAGE:

ORACLE provides a powerful procedural language extension to SQL known as PL/SQL. PL/SQL significantly increase application performance and developer productivity, while enhancing the power and functionality of other oracle products. With the help of this facility we can write procedures and functions just like any procedural language.

A number of other facilities are also structures for example oracle provides import/export utilities with the help of which it is possible to more structure along with data contained in these structures from system to another.

5.4 SYSTEM DEVELOPMENT:

Each system comprises of one or more components relating to one specific branch of the system. A description of system component is given below.

5.4.1 FORMS:

A form is basically a data input screen. Oracle form is the main tool of the developer 2000. Form is an arrangement of information that determines how an application will work and how it will appear to the operation while using software.

Forms are created using developer 2000, which provides good interface-forms are used for data entry modification, deletion and queries in the data base tables. Once the form has been designed, data entry operation needs not to know the SQL language.

5.4.2 BLOCKS:

Block is a logical container of objects. A form must contain at least one block. Each block corresponds to a base table, in which data is input, deleted and queried. A form may contain more then one block.

5.4.3 BASE TABLE:

A data base table, which is associated with a block, is called base table for that block. This block will contain all or some of the fields defined in that particular base table. Each operation (insert, delete, query) performed on a block actually operates the base table.

5.4.4 MASTER DETAIL TABLE:

A block is called master block if for each record in master, there exist. One multiple records in detail blocks when a form consist of more than one block. Detail table contains detailed records associated with the record in the master block; there may be many detailed records in the detail block. There is primary to foreign key relationship between blocks.

5.4.5 TRIGGER:

Triggers are the set of processing commands, which are executed when an event occurs.

All triggers are written PL/SQL, which is language integrated with oracle database. Triggers may be written at form level, block level, e.g. when we press a button, an event occurs.

5.4.6 LAYOUT EDITOR:

It is a screen editor in which we can design front and window screen according to user wish. Source field can be put anywhere on the screen by using built-in facilities e.g. we can adjust boxes and buttons to makes it interactive.

5.5 FORM DESIGN:

The following forms have been developed for system. The layouts of the forms are given in appendix-A.

- TOPIC FORM:

This form is used for the data base collection of the topics used in system. This form contains only one block.

(a) Block name : Topic

(b) Table invalid: Topic

This block contain the entire topic information for which relevant question will be given in the test and for the tip.

- QUESTION FORM:

This form is also used for data base collection of question and possible answers with form of A, B, C, or D and option of correct answer. This form contains only one block

a) Block Name: Question

Table Invalid: Question

It is used input the data query and modify the record.

- TIP FORM:

It contains only one block

Black Name: Tip

Table Valid: Tip

This form contains the information about textbook tittle and text page, no which are used for proposed system.

- STUDENT FORM:

It also contains only one block.
Block Name: Student
Table Valid: Student
This block contains the information about the student.

- SR FORM:

Block Name: SR
Table Valid: SR
It is a form which is used to update by after completion of the test form by the student.

- MASTER DETAIL FORMS:

In the system there are only two master form, which are used for input the data base.

(1) T_Q FORM :

It contains two blocks one for master and other for detail record.
Form Name: T_Q
Master Block: Topic
Detail Block: Question
Table Used: Question
This form is used for database of entering and querying the record of question.

(2) TT FORM:

In this form also contains two block one is for master record and for detail record.
Master Block: Topic
Table Valid: Topic
Detail Block : Tip
Table Valid : Tip
It has the information about main topics and its sub tittle used for the system with textbook page number for the student help.

5.6 REPORT GENERATION:

The process of report generation is accomplished with the help of report designer utility of developer 2000.

Using report writer, the designer fetches the records from different tables based on a query and forms then as a report.
Two types of reports are generated and described below. The layout of reports is given appended.

- Reports
- Queries

5.6.1 REPORTS GENERATED BY THE SYSTEM :

- STUDENT TEST REPORT:

In this report we have take field RNO1, Q-ID1, C-A1 and S_O1 to check the right supplied selected options by the user. This report describes the weakness of the user in different mathematical topics.

CHAPTER

6

SYSTEM IMPLEMENTATION AND EVALUATION

6.1 INTRODUCTION:

System implementation and evaluation is the final phase in system development of the software. The software designer must perform certain tests and look into the possibilities of the user which converting from the existing system to the proposed system. So it is vary important phase since the new one replaces the existing system.

After implementing the system, the designer evaluates the system for further enhancement and the suggestions. In this chapter various methods of system implementation, description testing and conversion techniques are described for the developed system. Then system is evaluated according to the standard.

6.2 SYSTEM IMPLEMENTATION :

Implementation is the process of bringing into operational use; a system that has been developed implementation is the last phase in the development of the system. It is the final destination of the developed system. During this phase the developed system is put into actual operation.

The major parts of this phase are following

- system testing
- system conversion

6.2.1 SYSTEM TESTING:

Testing is the process of executing a program with explicit intention of finding errors. Testing and validation is very important to make the system acceptable. Even if the system is developed using correct algorithm, its validity remains doubtful. A test case is used which consist of set of data that the system will process in order to determine whether the system will prove it correctly.

There are number of testing techniques.

- unit testing
- integrated testing
- system testing

- UNIT TESTING:

In unit testing different modules of software are tested implemently to locate errors. This helps in locating the error in coding and logic that one contained in particular module. The advantage of this testing is that if a module has an error, we can easily remove them, otherwise it will become difficult to locate errors. When system is implemented.

INTEGRATED TESTING:

After testing a system on unit level, combine testing of the modules is carried out. The purpose of this testing is to determine that all the modules are correctly interacting with each other. Also to ensure that correct forms are invoked by menu options as they are developed separately.

SYSTEM TESTING:

Finally testing is done on the system level to ensure that it is working according to all the desired specifications and requirement of the organization.

The size and structure of the data field are checked by using actual data, the main reason here is to determine the in consistency in the developed system.

6.2.2 SYSTEM CONVERSION:

After the successful completion of the testing phase, conversion is the process with the new one. There are different methods of performing system conversion. The following three methods are commonly used

- Pilot conversion.
- Direct conversion.
- Parallel conversion.

- PILOT CONVERSION:

In this method the system is implemented on a particular area of the subject. Thus the system is implemented in parts, the remaining parts of subject continue to work with the old system. This approach has the advantage of sound proving ground before implementation.

- DIRECT CONVERSION:

In this approach, the old system is immediately replaced with the new one. There are no parallel activities. This method requires careful advance planning. In case of failure of new system, the whole existing system will be collapsed. This is a major drawback in this system.

- PARALLEL CONVERSION:

In parallel approach, old and new systems are in parallel operation. They operate side by side. The user continues to use the old system and simultaneously learn to operate the new system when the user is careful to new system replaced the old system. This is the safest approach, because in case of failure, the user may immediately turn back to the old system without any wastage of time and data.

6.2.3 PROPOSED SYSTEM CONVERSION:

After a thorough analysis of different approach used for the system conversion, parallel conversion is recommended for the implementation of the developed system.
This approach is selected because

- It is normally the safest and suitable conversion strategy.
- It minimizes the problems that many arise from system failure.
- If unfortunately system fails, data cannot be lost because old system will also be working.
- It provides the opportunity to compose the result of existing system with those of newly developed system.
- Although it is difficult to handle two systems side by side. But it is the best method to judge the efficiency of the designed system. Over the existing system in case of parallel conversion, old system is available as a backup, which will be useful if newly designed system fails.

6.3 SYSTEM EVALUATION:

When the system is implemented successfully, the designer evaluates, the system to see whether the objectives of the system are accomplished or not. Also none of the developed system is complete a perfect system, there always remains need for the improvements. An exercise machines an immediate goal and arrives at a stage that logically seems an appropriate point for the termination of given object. However a point that appears to be terminal point for one project may be good beginning of another. So discussing features of the developed system and future enhancement carries out evaluation of the system.

6.4 MERITS OF THE SYSTEM:

A software system is evaluated by the interface it provides to its users also called the user interface. Major features of the developed system are following

- Operating system independence.
- Response time.
- Query on each field.
- Ease of use.
- Security.
- On line help.

- OPERATING SYSTEM INDEPENDENCE:

Which containing to operate efficiently the system can be run on other system with different operating system. Only minor changes in the parameters setting would need to accomplish this task.

- RESPONSE TIME:

Time factor plays an important role in any computerized system, the existing system takes large amount of time to produces reports and result

while the computerized system provide reports and results and results in reasonable time.

- QUERY FACILITY ON FIELD:

Query facility is provided in almost every field according to same criteria entered by the user. This makes the system more interesting.

- EASE OF USE :

The developed system is menu driven. The help is provided in every possible point. Data entry, updating and query are also easy to use.

- USER FRIENDLY :

System is user friendly, the user feel easy while using the system. Interface of the system is very interactive.

- SECURITY:

System will work by providing correct user name and password. In this way unauthorized persons can not access data.

- ON LINE HELP:

On line help is provided by the system for the user. If the user enters a wrong input, it will display proper massage.

- FUTURE ENHANCEMENT:

Through the design and development of this system, the main objective is to meet all the good qualities of the system by meeting all possible present and future requirements. This system meets all the present requirements. However in future, improvements can be made according to the requirements e.g. new repots and queries could be designed.
If a new subject is added to the system only a new table and form could be attached with the system for the other subjects.

CONCLUSION:

In the end, we would like to say that developing system was an interesting experience for particular point of view. We learnt a lot during this process become. It is not just base in assumptions but an actual work.

CHAPTER

7

USER'S GUIDE

INTRODUCTION:

The system developed is menu driven and the specially designed toolbar along with the tool tips help the user to understand the interface easily. Proper error messages and small tips during the data entry are available at every phase where the user may feel difficulty. However to make the system work efficiently and without any ambiguity, this guide may be useful for the user of this application.

7.1 LOG IN AND OUT:

Window 95 operating system installation is the first step towards system implementation. Second step is the ORACLE and DEVELOPER/2000 installation. SQL*DBA, an ORACLE'S tool, which is used to start and stop the ORACLE DBMS is also installed, it also performs maintenance and monitoring functions such as

- Initial Data Creation
- Data Backup
- Media Recovery

7.2 STARTING THE SYSTEM:

First click the "START" icon on the desktop then "PROGRAMS", then personal oracle for window 95 and finally click the start database icon, after clicking it we see the following message in the upper dialogue window.

- Clicking Security
- Instance Started
- Data base Mounted
- Oracle Database Mounted Successfully

Now open from runtime from 'Developer 2000 R2.1', a screen will appear, select the main file either by entering the name or using the browse,

user password will also be required; with these options we connect to the *database. After a while main menu will be displayed.*

Similarly in order to shutdown (close) the database, click on " stop database" icon is provided on the desktop.

7.3 FORMS:

Various form layouts have been designed to enter and retrieve data from the database. They form the basis of the database.

7.3.1 EDITING FIELDS:

It is the basic unit in the form design through which the form layout is able to store and retrieve data from the database.

7.3.2 STATUS LINE :

It is the button line of the screen on which information about the status is displayed.

7.3.3 MESSAGE LINE:

It appears as button line of the developer form in which messages and additional help is displayed.

7.3.4 RECORD MANIPULATION:

There are four operations possible on a database table i.e. addition, delete, modify, retrieve.

7.4 ADD RECORDS:

If a user wants to add a new record, he/she will have to adopt the following criteria.

- The form, which he/she wants to insert, must be displayed.
- Click the "record" menu item on the main menu and then click "insert" or simply click the new icon button on the toolbar. Now enter appropriate values for the different field on the form.

- Pressing <next arrow> key it will save this new record.
- If you want to insert another record repeat the same process.
- After you have finished entering the records press the "save" item in the "ACTION" menu or simply press "SAVE" icon button.
- Press <EXIT> from the "ACTION" menu or simply press the exit icon button to return to the main menu.

7.5 DELETE RECORDS:

In order to delete a record from a table, user should follow the following steps.

Open the form corresponding to the table which a record has to be deleted, place the cursor on the first field of the form and click "REMOVE" from the "RECORD" menu of the form. This will remove record only from the workspace but not from the database, therefore to remove it permanently press saves from the toolbar. It is worth mentioning that in order to remove a question record its answer record will result an error.

7.6 RETRIEVE RECORDS:

When user want to retrieve the information from the database it can be retrieved two different ways, which are as under

1. Display All Records In The Tables
2. Display Specific Record From The Table

- DISPLAY ALL RECORDS FROM THE TABLES:

Open the form corresponding to the table from which you want to access information, place the cursor position to the first field in the form layout and click " execute" from the query menu. Now press the down arrow keys on the keyboard to see the details of each record one by one. In this way you can see all records present in the table and of course also the desired record for which you have done all this. This method is not good enough in case when the tables contains large no of records and searching the required record in this way is time consuming job and required a lot of passion and concentration, therefore it is recommended to adopt the second approach.

- DISPLAY SPECIFIC RECORD FROM THE TABLE

Similarly in this case, open the form and place the cursor under the first field in the form and click 'ENTER' form the query menu of the form now enter a specific search criteria (condition) in the field and click 'EXECUTE' from the query menu. You will see only those records, which are full filling the given criteria. The retrieved records may be one or more then one depending on given condition.

7.7 MODIFY RECORDS:

To modify already existing records is quite a simple job. For this, you first need the records which you want to modify and for this you will have to repeat the same steps which you have studied in 2nd case of retrieving a specific record i.e. place the cursor under the first (main) text field of the form click 'ENTER QUERY' from the query menu, specify the search condition and then click 'EXECUTE' from the query menu of the form, this will give you the required records and now you can change any field of the record by clicking it and changing its already existing value and to make these changes permanent click ' SAVE 'from the action menu of the form or click save icon button on the toolbar.

- USE OF SCREEN FOR TEST PREPARATION:

Open the main menu form and select the choice that participant is ready for test or test preparation

- From test_preparation click on the button test_preparation is a form of window screen is open in the run shape here cursor will be blinking test item.
- Read the question and for given answers carefully and give your choice in the test item in capital letters A, B, C, or D and then press enter the key message will be display.
- If the answer is right a massage come out "very good" other wise "sorry not at all".
- Change the question by scroll bar or page down key and bring the cursor on display item "enter your choice" and feed the answer as describe above. After this press enters key a message will display for right and wrong answer.
- After some practice if you are ready for test press the button return.

7.8 UPDATING THE RECORD OF TEST:

Open the form test main menu by clicking the button. Again you will be at the main menu screen

- It has the same process but minutely difference from test_preparation system.
- In this form we want to check the ability of the student and save its record for report of result and percentage.
- In this case first press the query on task bar menu pop down menu open select query.
- Then enter your ROLL No in ROLL NO text item choice.
- After it feed your selected option in capital letters A, B, C, or D in text item press the enter key.
- Change the question from scroll bar or press the page down key.
- Again enter you selected option in text item by bringing the cursor by left clicking the mouse at text item.
- Repeat this process until you want to see the result.
- By pushing it you can see the result, No of question attempted by you, No of incorrect answer supplied by the user and his result percentage (%).

7.9 COUNTING QUERY RECORDS:

Sometime we want to know in advance how much record will be retrieved in response to the search condition with which we specify during ' ENTER ' operation. For this follow the steps

Press<ENTER QUERY> Key
Enter the search condition
Press ' COUNT THIS ' from the query menu of the form
It will tell you the no of records that will be retrieved when you execute the query.

7.10 REPORT GENERATION:

To generate reports select the report option from the main menu. A sub menu will be displayed, where different options are listed. Select required one and answer the dialogue box if any. Reports will be generated; it can be printed on the paper as well as displayed on the screen.

7.12 SECURITY IMPLEMENTATION:

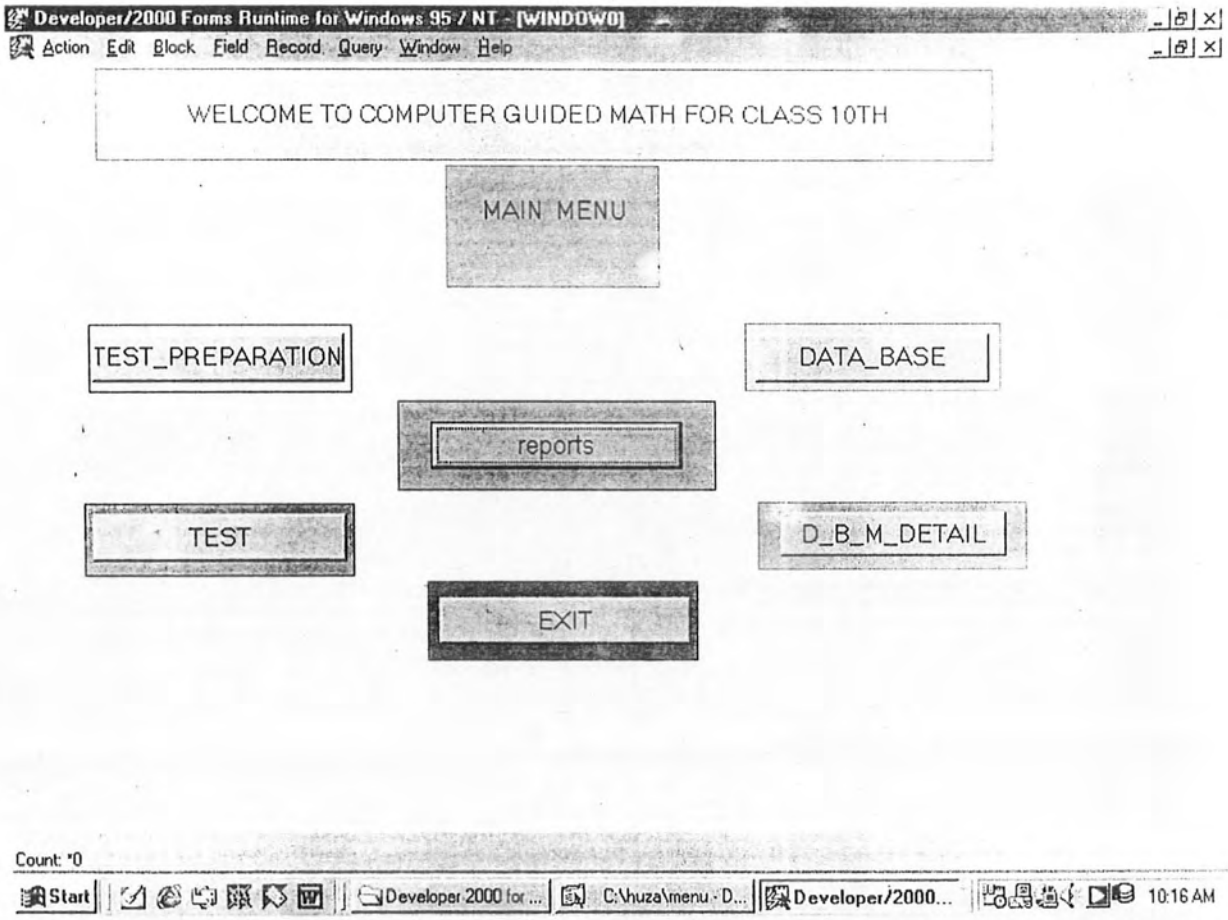
The ORACLE user required DBA privileges in order to create, shut down, start up, and connect to the database. So the member of the DBA group automatically gives user privileges, when he/she access the SQL DBA, looks for the group membership of the account. If the user is in the DBA group access is granted to the system privileges function of SQL' DBA can be accessed.

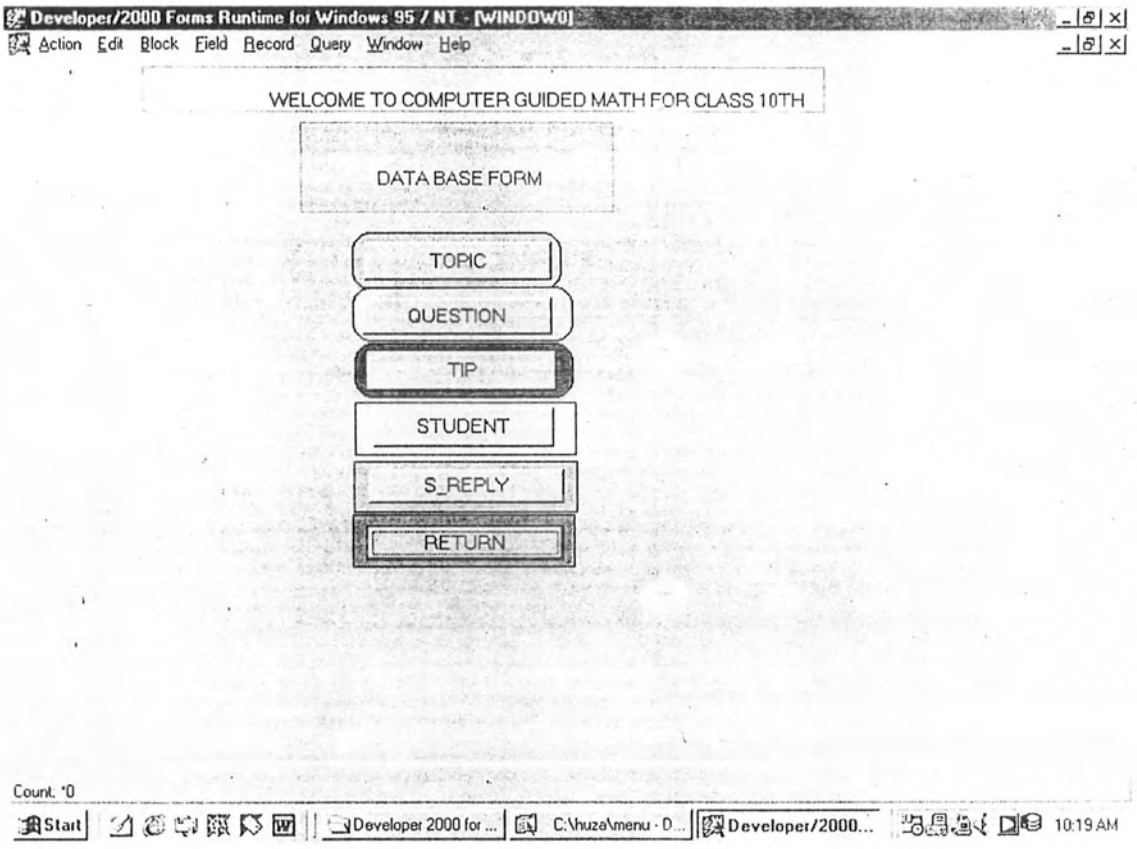
Before running the application the ORACLE database must be started up and the blue box like icon appears on the status line of the desktop and after closing the application, database should be shutdown properly. If database is not shutdown after exciting from the project application, the chances of its being corrupted becomes high.

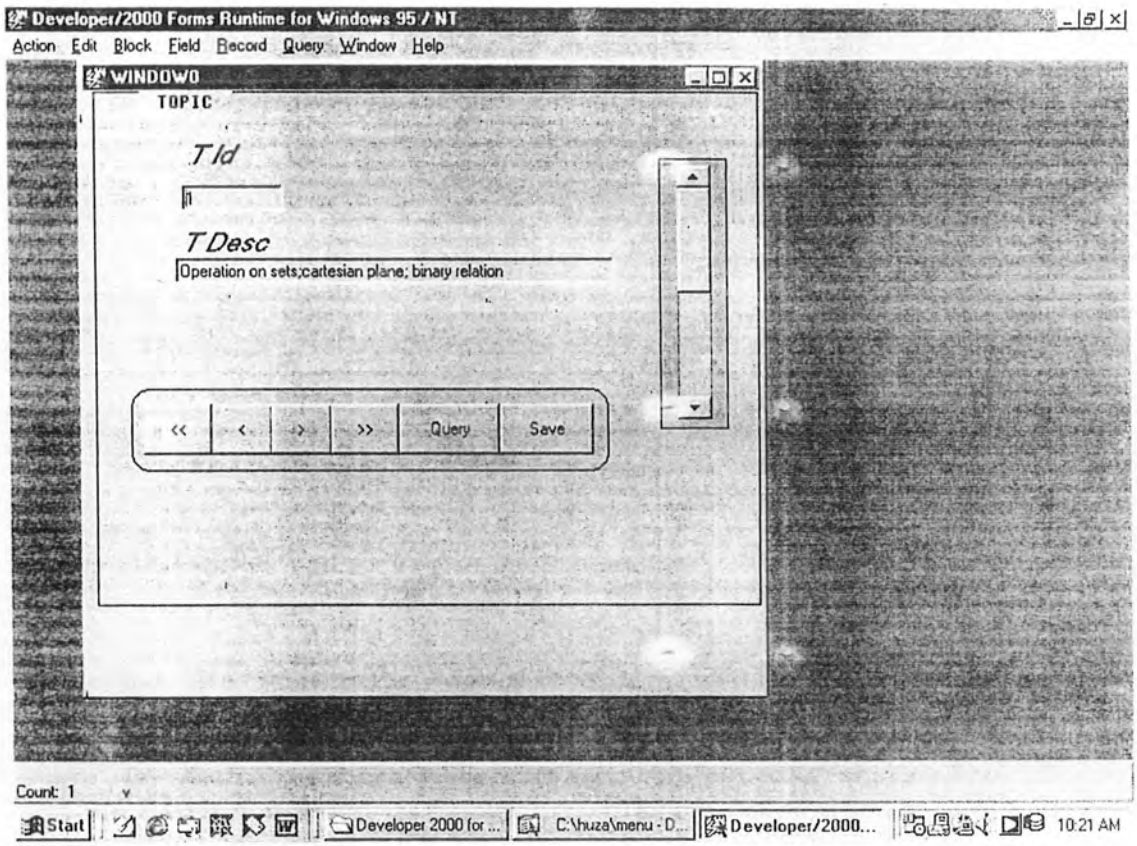
7.7 SPECIAL CONSIDERATION:

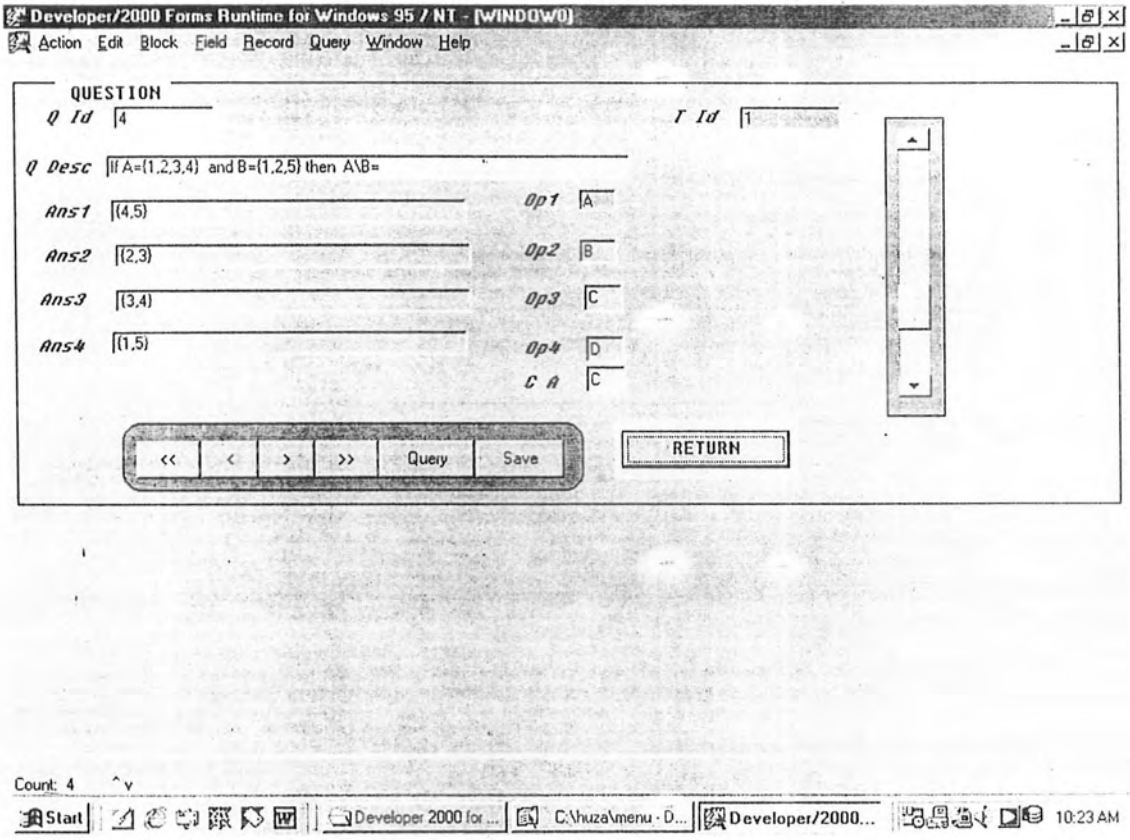
The system has been developed in oracle/developer 2000 window 95 based. So to operate the system it is necessary that the user must have enough knowledge of window 95. Every user must have a login account and password assigned to him/her by the system administrator. Then he/she has the authority to access the system. The system should be carefully shutdown and database should be dismounted properly, otherwise if will result in loss of data.

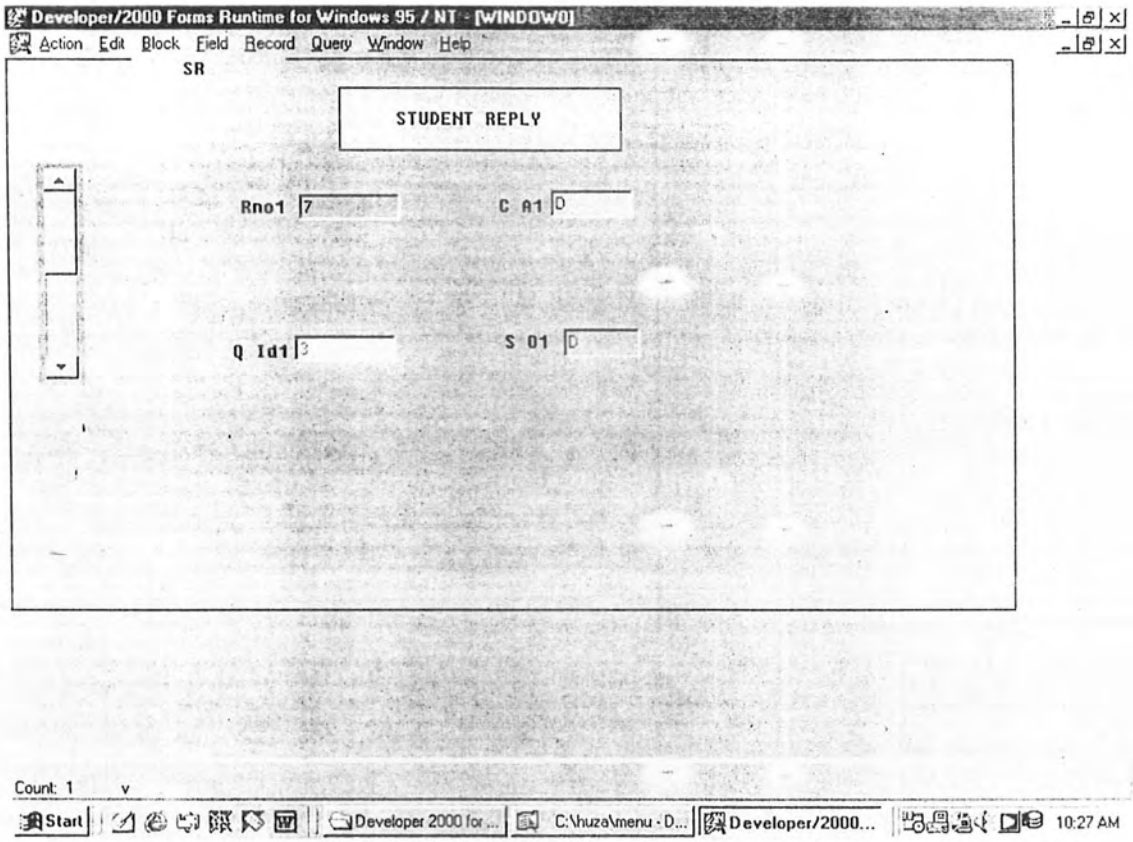
APPENDIX- A
FORMS

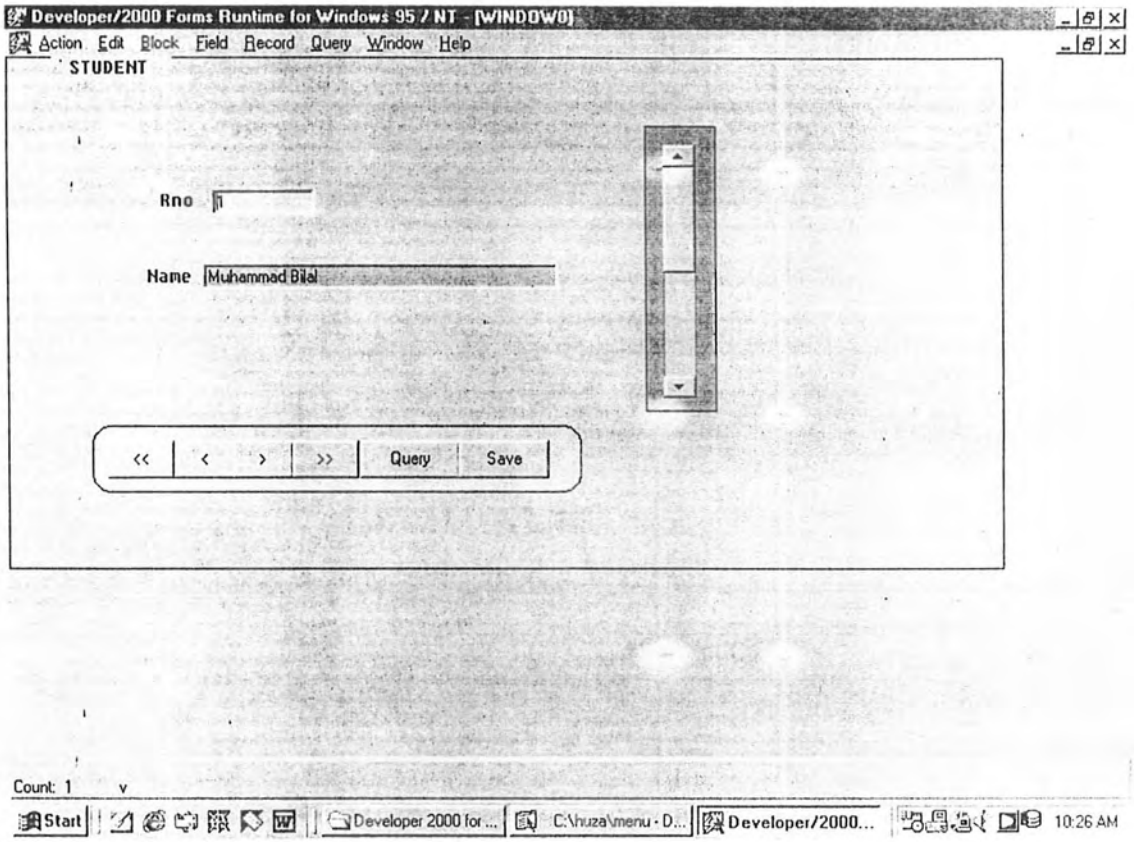

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
WELCOME TO COMPUTER GUIDED MATH FOR CLASS 10TH
MAIN MENU
TEST_PREPARATION
DATA_BASE
reports
TEST
D_B_M_DETAIL
EXIT
Count: *0
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:16 AM

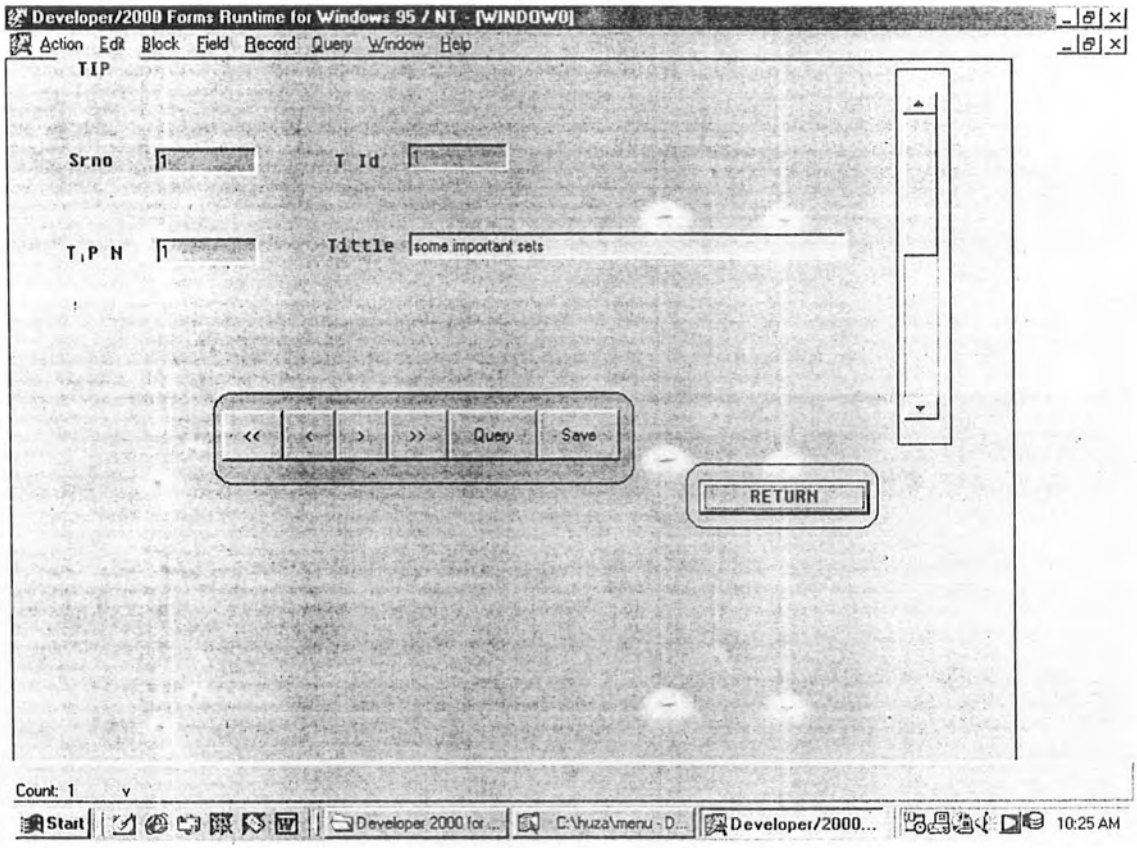

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
WELCOME TO COMPUTER GUIDED MATH FOR CLASS 10TH
DATA BASE FORM
TOPIC
QUESTION
TIP
STUDENT
S_REPLY
RETURN
Count: *0
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:19 AM

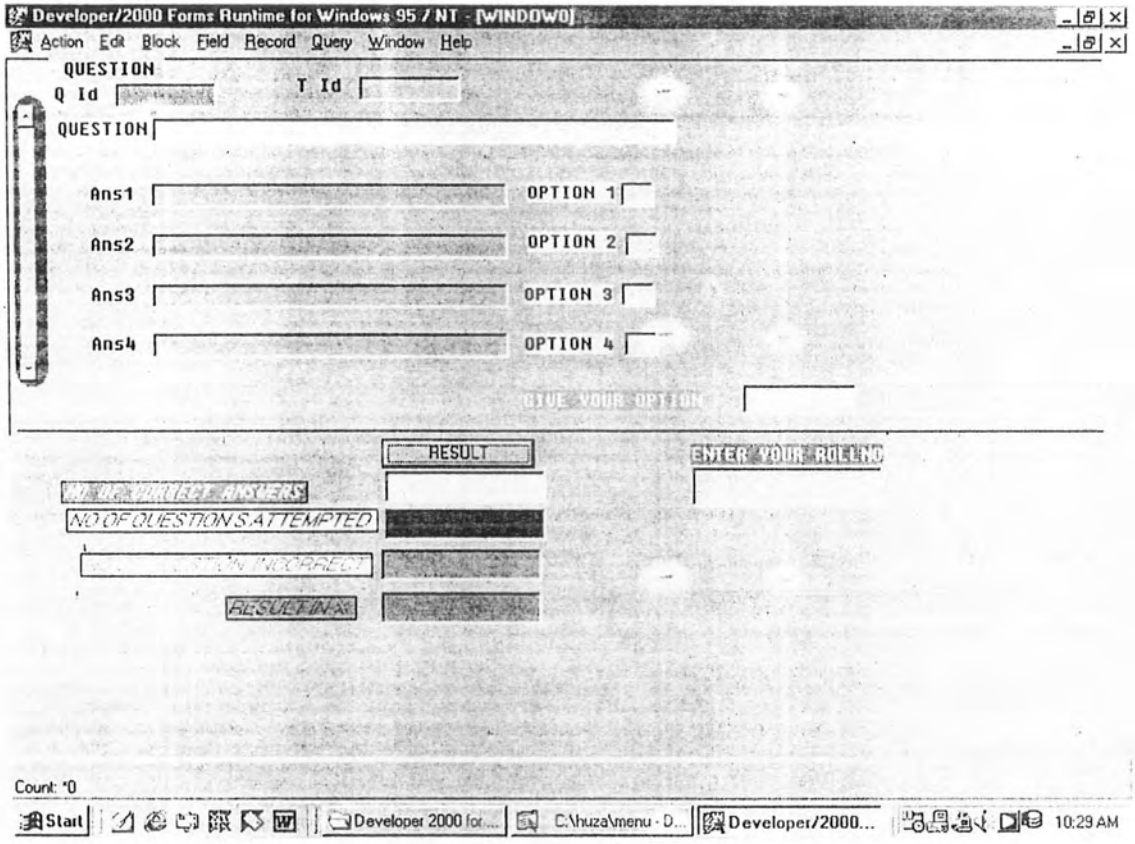

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Block Field Record Query Window Help
WINDOW0
TOPIC
TId
1
TDesc
Operation on sets;cartesian plane; binary relation
<<
<
>
>>
Query
Save
Count: 1
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:21 AM

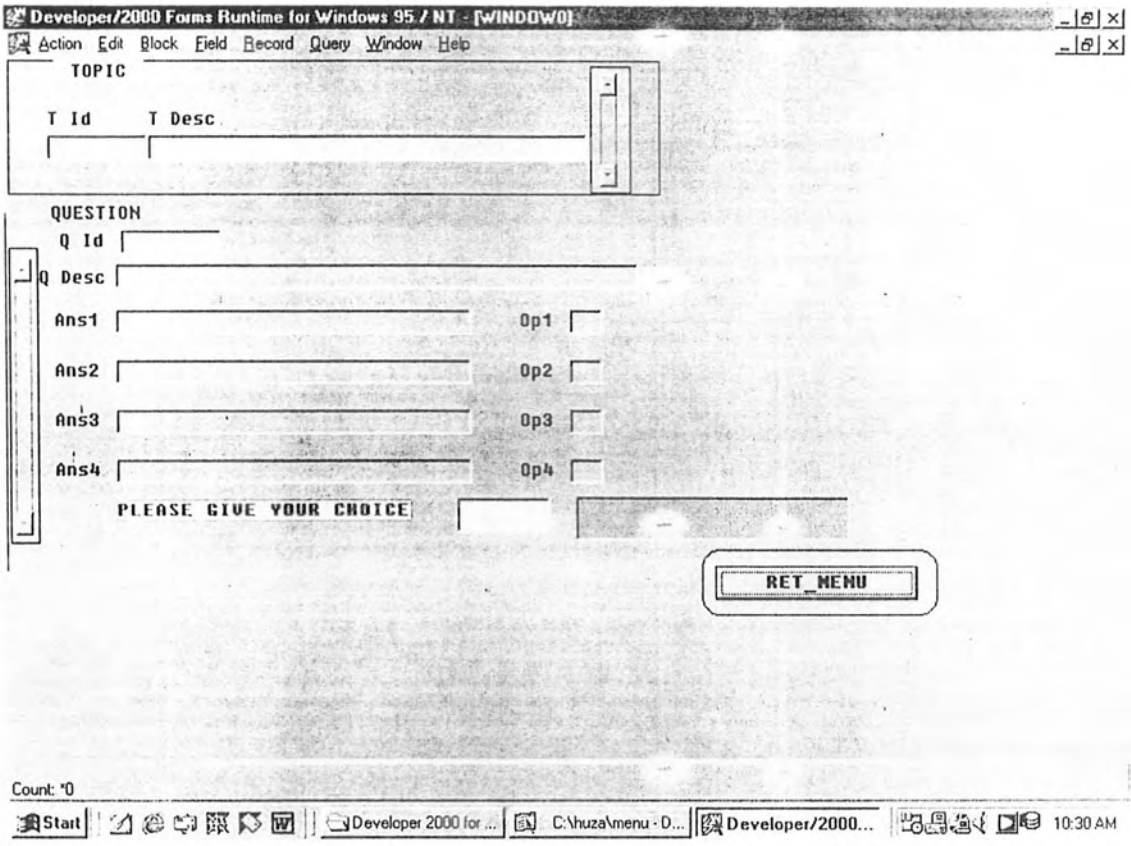

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
QUESTION
Q Id 4
I Id 1
Q Desc If A={1,2,3,4} and B={1,2,5} then A\B=
Ans1 {4,5}
Ans2 {2,3}
Ans3 {3,4}
Ans4 {1,5}
Op1 A
Op2 B
Op3 C
Op4 D
C A C
<< < > >> Query Save
RETURN
Count: 4
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:23 AM


Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
SR
STUDENT REPLY
Rno1 7
C A1 D
Q Id1 3
S O1 D
Count: 1
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:27 AM

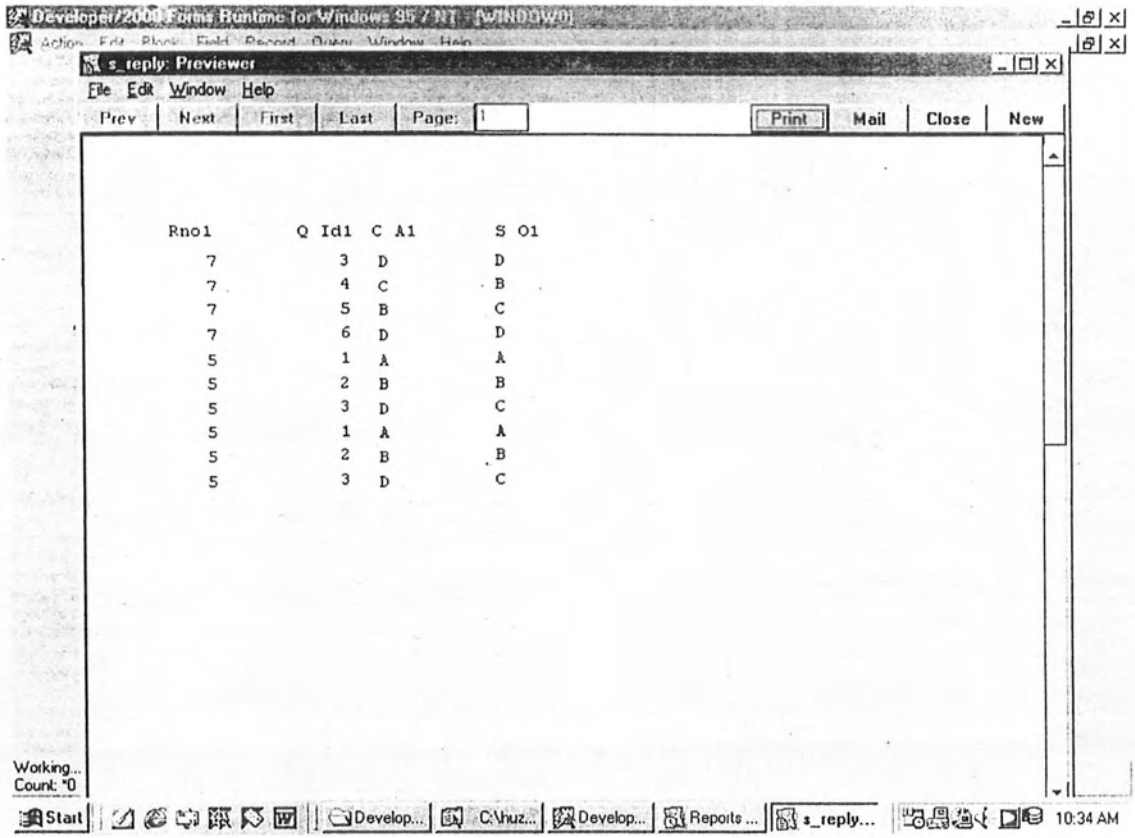

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
STUDENT
Rno 1
Name Muhammad Bilal
<< < > >> Query Save
Count: 1
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:26 AM

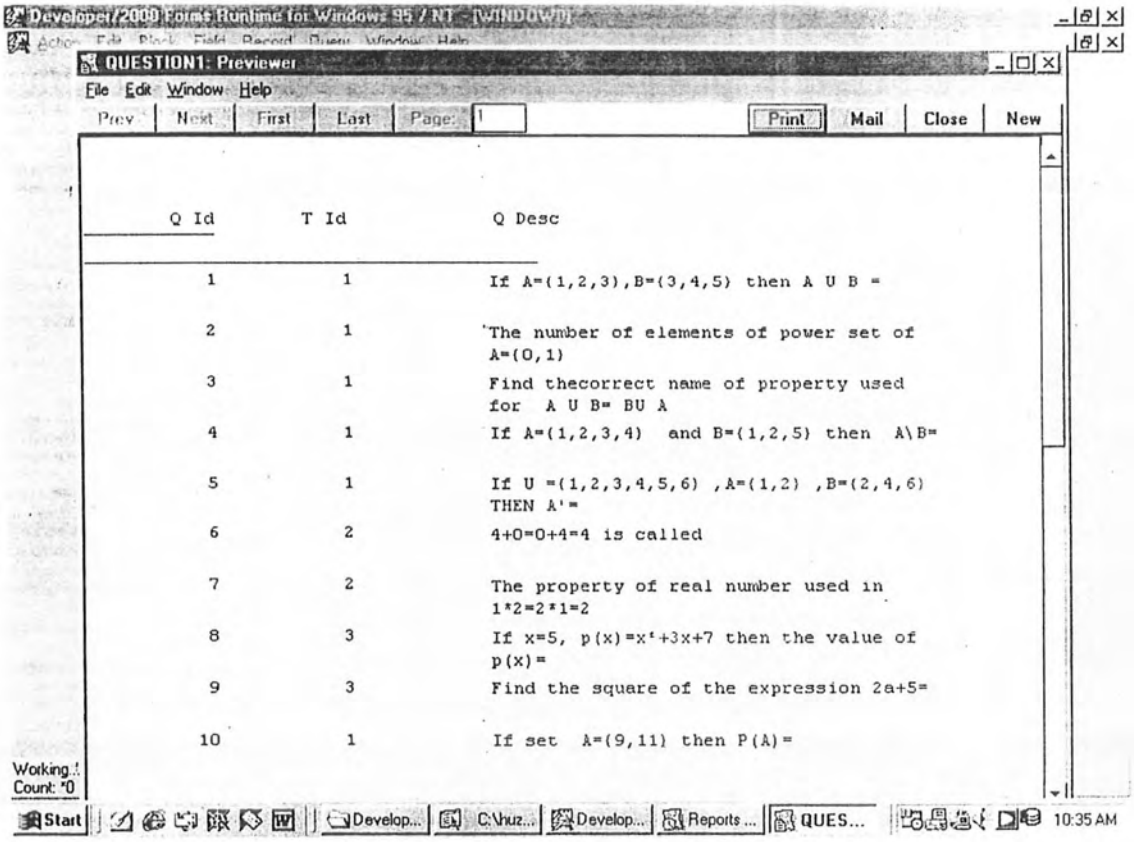

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
TIP
Srno
1
T Id
1
T,P N
1
Tittle
some important sets
<<
<
>
>>
Query
Save
RETURN
Count: 1
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:25 AM

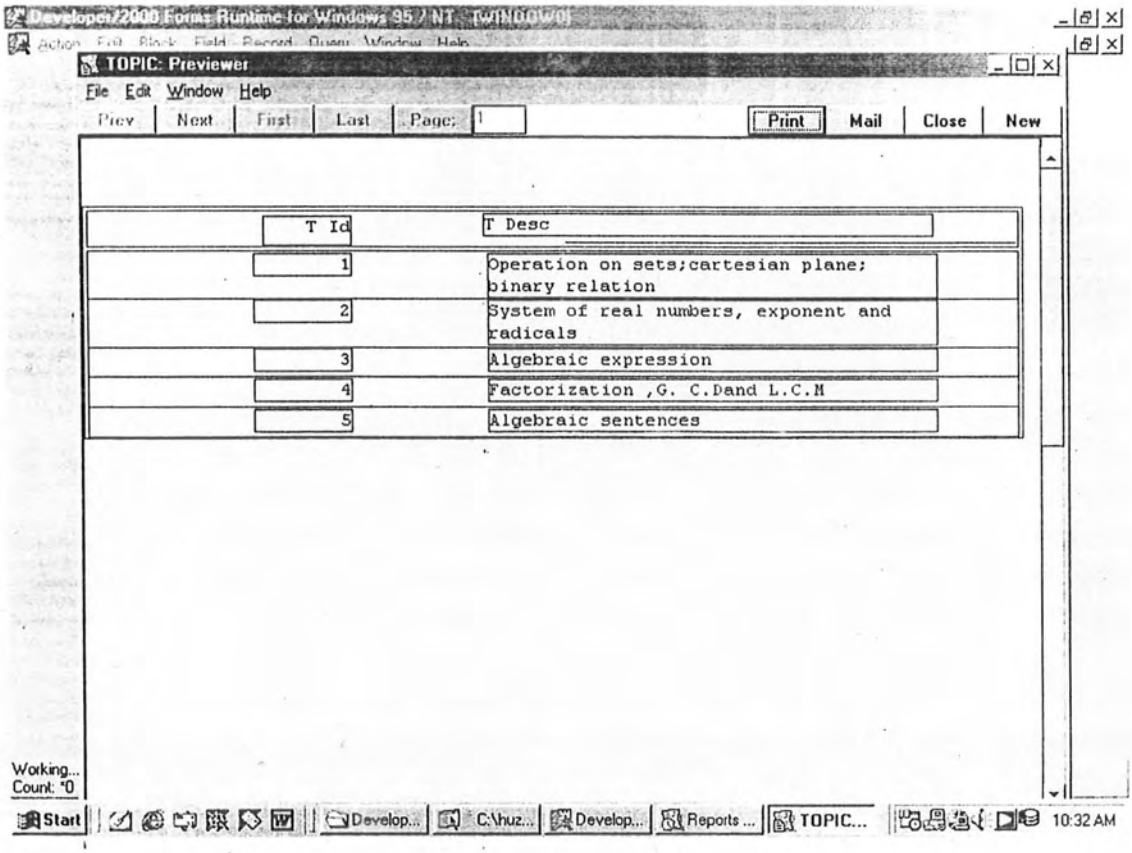

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
QUESTION
Q Id
T Id
QUESTION
Ans1
OPTION 1
Ans2
OPTION 2
Ans3
OPTION 3
Ans4
OPTION 4
GIVE YOUR OPTION
RESULT
ENTER YOUR ROLLNO
NO OF QUESTIONS ATTEMPTED
RESULT IN %
Count: *0
Start
Developer 2000 for...
C:\huza\menu - D...
Developer/2000...
10:29 AM


Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
TOPIC
T Id
T Desc
QUESTION
Q Id
Q Desc
Ans1
Op1
Ans2
Op2
Ans3
Op3
Ans4
Op4
PLEASE GIVE YOUR CHOICE
RET_MENU
Count: *0
Start
Developer 2000 for ...
C:\huza\menu - D...
Developer/2000...
10:30 AM

APPENDIX-B
REPORTS


Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW0]
Action Edit Block Field Record Query Window Help
s_reply: Previewer
File Edit Window Help
Prev Next First Last Page: 1 Print Mail Close New
Rno1 Q Id1 C A1 S O1
7 3 D D
7 4 C B
7 5 B C
7 6 D D
5 1 A A
5 2 B B
5 3 D C
5 1 A A
5 2 B B
5 3 D C
Working...
Count: 10
Start
Develop...
C:\huz...
Develop...
Reports ...
s_reply...
10:34 AM


Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
QUESTION1: Previewer
File Edit Window Help
Prev Next First Last Page: 1 Print Mail Close New
Q Id T Id Q Desc
1 1 If A=(1,2,3),B=(3,4,5) then A U B =
2 1 The number of elements of power set of A=(0,1)
3 1 Find thecorrect name of property used for A U B= BU A
4 1 If A=(1,2,3,4) and B=(1,2,5) then A\B=
5 1 If U =(1,2,3,4,5,6) ,A=(1,2) ,B=(2,4,6) THEN A'=
6 2 4+0=0+4=4 is called
7 2 The property of real number used in 1*2=2*1=2
8 3 If x=5, p(x)=x'+3x+7 then the value of p(x)=
9 3 Find the square of the expression 2a+5=
10 1 If set A=(9,11) then P(A)=
Working...
Count: *0
Start
Develop...
C:\huz...
Develop...
Reports ...
QUES...
10:35 AM


Developer/2000 Forms Runtime for Windows 95 / NT [WINDOW0]
Action Edit Block Field Record Query Window Help
TOPIC: Previewer
File Edit Window Help
Prev Next First Last Page: 1 Print Mail Close New
T Id
T Desc
1
Operation on sets;cartesian plane; binary relation
2
System of real numbers, exponent and radicals
3
Algebraic expression
4
Factorization ,G. C.Dand L.C.M
5
Algebraic sentences
Working...
Count: 0
Start
Develop...
C:\huz...
Develop...
Reports ...
TOPIC...
10:32 AM

BIBLIOGRAPHY

1. Mathematics textbook for class 10^{th}.
2. Commercial application development using ORACLE developer 2000 by IVAN BAYROSS.
3. Commercial application development using ORACLE developer 2000 form 5.0 by IVAN BAYROSS.
4. Modern database management by Fred R.Mcfadden, Jeffery A.Hoffer, Mary B. prescott.