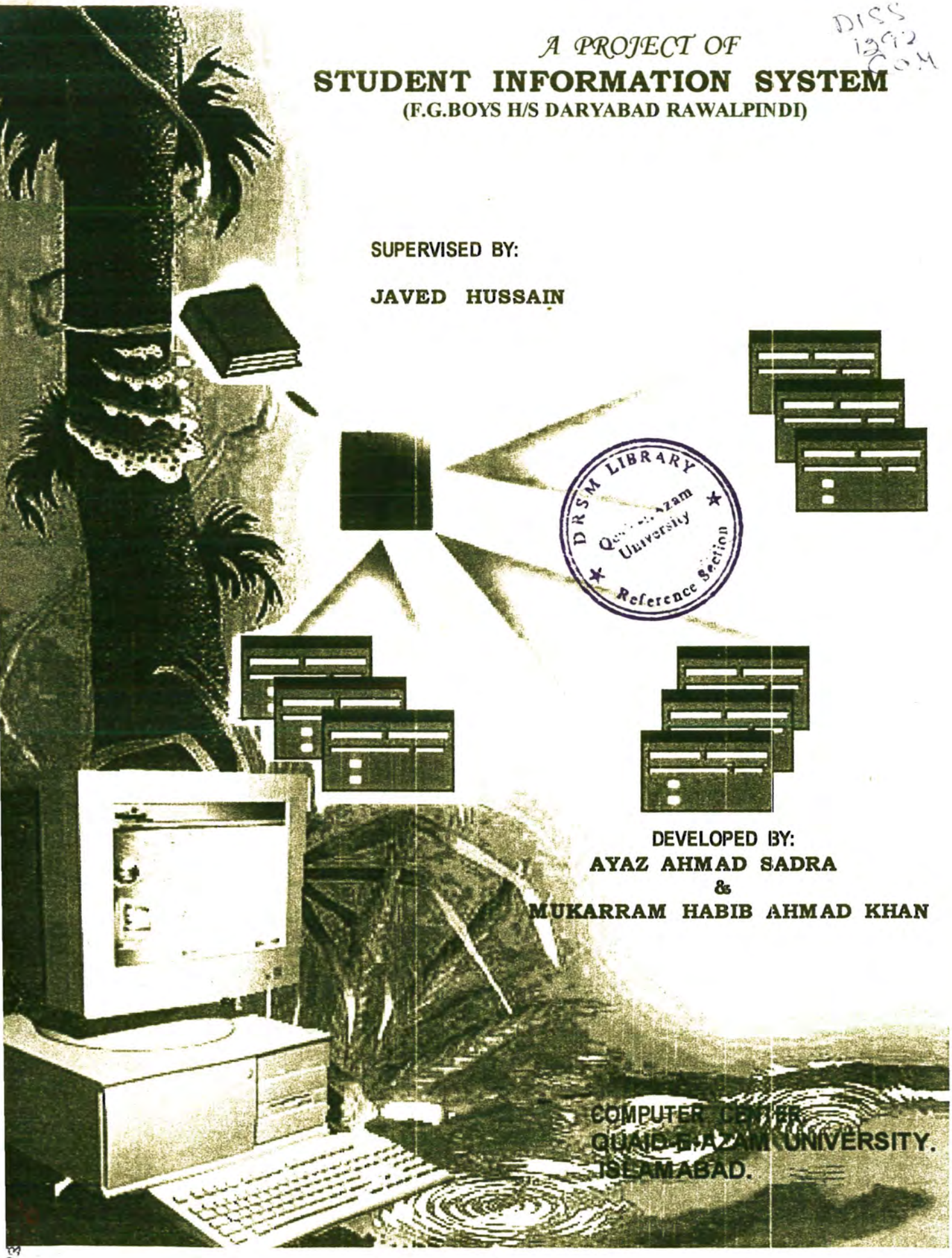
A PROJECT OF

STUDENT INFORMATION SYSTEM

(F.G.BOYS H/S DARYABAD RAWALPINDI)



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Definition and scope of the project

CHAPTER NO.1

PROBLEMS & SCOPE

Introduction:-

Computer is playing an important role in developed countries. But in the developing countries like Pakistan there is a need to introduce the computer in many field, especially in education and communication.

Problem definition includes determining the nature of the problem. It's scope and system objectives. The first task is to understand the problem. The next is to establish the scope and the limitations of the project., so the general objectives of the system are as follows.

The Nature Of The Problem:-

Presently in F.G Daryaabad Boys High School Rawalpindi, complete information about a student is not available at one place and getting complete information is difficult. As information about admission system and examination, registration in board. Result is kept in examination section and personal information kept in admission register, while the information about attendance and fee is kept in the attendance register.

To get information, searching be performed which is time consuming. Beside this the following problems exist:

- There is no information about a student who takes part in games and other curricular activities.
- If a student is a son of armed forces non information is available.
- If a student is a son of civilian (like F.G.E.I (C/G) employee, defense paid and other occupations). There is non information about in his school.

Computerization of above mentioned problems will save the precious time and accurate record keeping will be established.

scope:-

The scope of the proposed system is to provide a flexible computerized student information system for the F.G. Daryaabad Boys High School Rawalpindi. It would provide efficient means of storage and retrieval of records.

This project is being carried out to fulfill the need of computerization of the following:

1. Student personal information.
2. Exam system information.

3. Study position in school/class information.
4. Curricular and extra curricular activities information.
5. Previous status information.

Objectives:-

There is a need to keep complete information abut each student in a systematic and well organized manner, so that information can be made available whenever needed, in an efficient way. Therefore objective of this work is to provide each type of information about a student with the following features:

- Better management and control of the student information.
- Easily accessible complete information about students.
- Well formatted reports.
- An easy to use system.
- Online queries.
- To reduce data duplication.
- To overcome the difficulties and kindness of existing system.

Chapter 2

Introduction to the Existing system & it's Drawbacks

CHAPTER NO.2

THE CURRENT EXISTING SYSTEMS

&

ITS DRAWBACKS

Introduction:-

Every institution whether large or small uses information system to maintain the important subjects of information which are vital for its existence. Such a system is indispensable in every institution, which maintain the necessary information about its students.

Student Information System:-

Student information system as discussed covers the following:-

A. Student personal information.
B. Student previous school information.
C. Examination information.
D. Fees and other dues information.
E. Registration in board, curricular and extra curricular activities information.

Personal Information:-

Two types of information is maintained about a student.

Personal:-

This area covers the information such as name, father's name, address, date of birth, residence from, B.Form and NIC etc.

Academic:-

Student's current and previous academic information is stored.

Academic Programs:-

To know what does the proposed computerized system exactly do, it is necessary to have knowledge about academic process at F.G. Daryaabad Boys High School Rawalpindi. A summary of academic process at F.G. Daryaabad Boys High School Rawalpindi and related rules and regulations are given below.

F.G. Daryaabad Boys High School Rawalpindi is a Federal Institution under Army Education Corps Directorate and accepts the candidates from all areas of Pakistan which are in Cantt. and Garrison 50% seats are reserved fro the children of the Armed Forces Employees, some seats are reserved for the children of the civilians like (Defense Paid, FGEI (C/G) Employee and those civilians who are living in the Cantt areas in Pakistan).

Admission System in F.G. DBHS:-

A student who wants to take an admission in the school, he gives an application to the GSO-1 of the Rawalpindi Region. The GSO-1 Marks the application for the test for the desired class. After this the student took the exams for admission if he passed the admission test then he is able to get the admission in the school.

After this the Principle gives an admission form to the successful students. The complete filled form with last school leaving certificate and proof of date of birth with B-Form of NIC and the proof of residence in Cantt are is also attached with the admission form. So in this way a student can get an admission in F.G Daryaabad Boys High School Rawalpindi. The admissions starts from the month of April to the beginning of the summer vacation. Normally a student can only take the science subject in the school there is nbo option to take the Arts subject in F.G. Boys Schools setup.

Examination:-

A student of class 6^{th}, 7^{th} will take exam in the whole year three times, i.e. the 1^{st} term which are held after summer vocation, the 2^{nd} term which are held in the month of December and the final exams held in the month of March. The examination system for the other classes i.e. 8^{th} , 9^{th} and 10^{th} is the same upto December test but the final exam of these classes is the board exam and held according to the schedule of the Federal Board Islamabad. It is necessary for a student who is taking the exam of internal or from Board that he

has attended the 76% classes. If the attendance is less that 75%, so the student shall not be allowed to appear in the final examination. Also a date wise record of the attendance of students shall be maintained by each class register.

Promotion Policy & Gradation:-

A. The minimum pass marks for each subject shall be 33%. Candidates obtaining less that 33% marks in any course shall be deemed to have failed in that subject.

B. If a student fails to appear in the final exam on medical or any other reason he is treated as absent or failed.

C. There is a policy that in the internal final exam upto class 8^{th} a student shall be required to pass all the subjects but if a student fail in any two subjects and obtained minimum 25% in these two subjects then he is treated as promoted to the next class.

D. If a student is failing continuous from last two years shall ceased to be a student of the school.

E. Candidates securing 80% marks or more in the final shall be given grade "A1", 70% to 79% grade "A" and 60% to 69% grade "B", 50% to 59% grade "C", 33% to 49% grade "D" and below 33% will be considered fail.

Extra Curricular & Curricular Activities:

During the study in this school students take part in the curricular and extra curricular activities. In the extra curricular activities there are games in which the students take part. Thee are five games in this school. These are

Football, Basket Ball, Volley Ball, Hockey and Table Tennis. This school takes part in the regional tournaments, which are held each year in the month of September. After this the winning teams of the regional tournament takes part in all Pakistan inter regional tournament.

Students play different games and become the regular members of the School tearms. Students also take part in other activities like Debates, Naat, Qirrat and Eassy and Art Competitions at regional level.

In curricular activities students perform the science practicals. They attend the library and attend the class lectures. Also students takes the exams during the one academic year.

Registration of The Student:-

When a student reaches in the 9^{th} class then the registration of each and every student is necessary from the Federal Board Islamabad. Because without this registration a student can not take part in the Board Exam. The Federal Board issues the registration card after the registration of each student.

Drawbacks of The Existing System:-

Since the present working system is manual, so there are a lot of problems faced by te authorities. The following are the drawbacks of the existing system:-

- ***Efficiency***

A large number of paper files have to be maintained to keep the information about the students. Whenever records of a particular student are searched a lot of time is consumed. This tends to minimize the efficiency of the existing system.

- ***Unreliable Backup***

All the information and the data are stored on papers, files and the registers, which are liable to be lost or destroyed. So the present system is not protected.

- ***Time Factor***

It is the fact that the number of students is increasing with the passage of time. As the system is manual, thus the access, updation, deletion and insertion of records take a lot of time.

- ***Redundancy***

There is a high level of redundancy in the existing system. The only input for the student's record is the admission form. Moreover the present system occupies more space stationery and manpower.

Chapter 3

The Proposed System & it's Objectives

CHAPTER NO.3

THE PROPOSED SYSTEM

Introduction:-

Computerization means to change ones from a manual system o a computer based system. The most important phase after a study of on existing system is the designing of new system. The present system, as discussed earlier has a number of drawbacks and limitations.

The proposed system has been designed after conducting a detailed study of the present system. It is a computerized system in which a data processing method is used to make the system more efficient, reliable, and easy to use than present manual system.

The necessary information and data were calculated by having meetings and asking related questions from the concerned section of the school.

Some other necessary information was obtained by getting and looking different forms, registers, and files that are used for keeping student records.

The collected information was analyzed and it was decided that computerized system contain the following information about every student.

Admission Information:-

1. Allotted admission number.
2. Date of admission in the school.
3. Name of class & section.
4. Previous school leaving certificate.
5. Session.

Personal Information:-

1. Student name.
2. Father/guardian's name.
3. Date of birth.
4. B-Form of NIC.
5. Address.
    a. Permanent home address.
    b. Present postal address.
    c. Telephone number
6. Religion.
7. Cast.
8. Sex.
9. Nationality.
10. Father's occupation.

Student's Previous Qualification Record:-

1. Name of institution.
2. Main subject.
3. Year of passing.
4. Marks obtained and total marks.
5. Overall grade & division.

Academic Information:-

1. Class attendance.
2. Roll No.
3. 1st term marks.
4. 2nd term marks.
5. Final term marks.
6. Class test marks.
7. Practical performed.
8. Grade.
9. Registration in Board.

Final Report:-

1. Grand total marks.
2. Obtained marks.
3. Overall grade.
4. Status.

5. Remarks.
6. Position in class.

Other Information:-

If a student is a player of the school team then.

1. Team name.
2. Position in team.
3. Regular or reserved.

If a student takes part in the other activities then:

1. Debates (English/Urdu).
2. Naat Khawani.
3. Qirrat.
4. Art Competitions.
5. Eassy Writing.

System Requirements:-

After the detailed study of the existing system, defining problems, specifying, system collected data, system requirements were identified. The system must provide;

1. Queries (online information on the screen).
2. Printed reports when required.

The online information, and the printed reports includes:-

- Personal information.
- Academic carrier.

a. Academic year wise information.

1. Admission numbers of students.
2. Registered students in board.
3. Passed students.
4. Failed students.
5. A,B,C and F grade.

b. For each student.

1. Grand total marks.
2. Overall grade.
3. Overall percentage.
4. Status & remarks.
5. Position.

At any time.

1. List of all borrowed things, by the student at the time of clearance.
2. Getting all required information about the players of the school teams.

3. List of students who get the registration card from the Board.
4. List of all the students who perform the science practical in the science subject.
5. List of relevant courses studying in the class.
6. Cantt Area residence wise list of students.
7. Different employee wise list of students w.r.t their father occupation.
8. List of the students who get the scholarships during the stay in school in different board classes.
9. Getting the information about the results of the students.
10. Getting the information about the previous record of the students.

Software Selection:-

Software selection plays a vital role in developing the system. The database selected for this system is oracle/developer2000. Oracle is a complete database management system. Some important features of Oracle/Developer 2000 are:-

- ***Multi User Support:-***

  Oracle is multi-user software. It provides a powerful client server relationship between server and its terminals because of distributed architecture of oracle, data and applications can be on multiple computer and communicate very efficiently.

- ***Portability:-***

Oracle R.D.B.M.S is fully practicable and it can be fully installed and run on variety of machines and operating systems.

- ***Security:-***

Oracle provides the feature of security. In Oracle 2000 we can crated different users and cn grant different permissions to the users who can access with their own user name/pass word and can work with allowed permission.

Chapter 4

The proposed System Design

CHAPTER NO 4

SYSTEM DESIGN

Introduction

To plunge into design, producing comprehensive and detailed plans for all aspects of system is necessary. Every element within system needs to be designed and structured. Different users may have different views to a database, so the prime task of design is to integrate these views and and to create an efficient physical database capable of supporting these views with adequate performance.

These factors have great impact on system design:

- Strong and clear problem definition
- Description of the existing system
- Clear description of the new system requirements.

The system has been designed keeping in mind the objectives, and requirements of the system that were set before.

The following work was done during system design:

- Input screen design
- Output screen/queries design
- Code design
- Database design.

Input Screen design

Data entry is very laborious and time-consuming job, so the input screen must be designed in such a way that chances of errors be minimized.

In the new system the input screen have been clearly designed to indicate its purpose such as personal information.

Data Entry Screen, Course Registration Entry Screen, Student's Previous Qualification Record Screen etc. Appropriate messages are displayed on screen when required.

There are thirteen different data screens used to enter the necessary information that are required for this system. These screens are shown in the Appendix-A

Input design include the following:

- Code design
- Form design
- Screen design

Code design

A code can be defined as abbreviation of the actual data, which occupies fewer places. The probability of entering incorrect information is greater when data field is large enough to handle, so using of codes minimizes the chance of making errors. Some data fields require coding to speed up process time, save storage, and reduce error making.

In the new system codes have been designed for the following fields such as:

- ADM_NO
- C_ID

The user gives these codes.

Form design

The performance of the proposed system depends on the accurate data entry system. So, input forms are designed in such a way that the process of input becomes clear and accurate.

Following two types of input forms are designed for the proposed system:

- Data entry forms
- Code entry forms

Data entry forms

Data entry forms are:

- Curricular activities
- Detail marks sheet
- Dues of classes
- Examination information form
- Co-curricular activities
- Fees record information form
- Funds information form
- Main form
- Master detail of student curriculum & co-curricular activities
- Master detail of student examination record
- Master detail of student previous record
- With drawl record information form

Code entry form:

- Class information form
- Admission information form

Output Screen/Queries Design

Initial output consideration includes what output information is needed, how it should be presented, what format it should have, when it is needed, and what the volume of information will be.

Out put screen factor include screen size, screen shape, resolution and color.

In the new system out put screen consist of required queries, and those out put screens that are used for retrieval, modification and deletion of records.

These screens have been designed clearly, and are user oriented. Appropriate messages are displayed when required.

Database design

The entire system depends on the file design. File must be designed such that the queries and reports are produced in least amount of time. Moreover, it is better to normalize files for avoiding data redundancy and inconsistency. There are three important types of file organization; sequential file, index sequential file, and direct file. In a sequential file, records are stored in ascending or descending primary key order. The logical sequence is the same as the physical sequence. Search for a given record in a sequential file requires, on average, access to the records in the file.

Database design for the proposed system

Table name **Class**
Primary key **C_id**
Description **To store Class information of class**

Table 1

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
SR_NO	NUMBER	10		Serial number
C_ID	VARCHAR2	10	NOT NULL	Class unique code

Table name Examination

Primary key Sr_no

Description To store information about the examination

Table 2

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	5	Not null	Serial number
Adm_no	Varchar2	10		Admission number
C_id	Varchar2	10		Class unique code
Name	Varchar2	20		Name of student
Father_name	Varchar2	20		Father's name
Marks_obtained	Number	4		Marks obtained in exam
Grade	Varchar2	5		Grade got in exam
Exam_roll_no	Varchar2	10		Unique roll no. in exam

Table name Previous record

Primary key Sr_no

Description To store previous record of the student

Table 3

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10	Not null	Serial number
N_of_institute	Varchar2	5		Name of institute
Pre_class	Varchar2	5		Previous clasds
Pre_d_o_withdraw	Date			date of with drawl
Max_marks	Number	3		Maximum marks
Obt_marks	Number	3		Marks obtained
Year_of_pass	Varchar2	10		Passing year
Adm_no	Varchar2	10	Not null	Admission number
C_id	Varchar2	10		Unique class code
Name	Varchar2	20		Name of student
F_name	Varchar2	20		Father's name

Table name With drawl record

Primary key Sr_no

Description To store the with drawl record

Table 4

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10	Not null	Serial number
F_name	Varchar2	20		Father's name
Payable_dues	Number	10		Dues payable
D_o_withdrawl	Date			Date of with drawl
Attendence	Number	5		Attendance
Adm_no	Varchar2	10		Admission number
C_id	Varchar2	10		Unique class code
R_o_withdrl	Varchar2	30		Reason of with drawl
Name	Varchar2	10		Name of student

Table name Student admission record

Primary key Adm_no

Description To store the admission record of the student

Table 5

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10		Serial number
Name	Char	20		Name of the student
F_name	Char	20		Father's name
Religion	Varchar2	10		Religion of student
Nationality	Varchar2	10		Nationality of student
F_design	Varchar2	10		Designation of father
B_reg_no	Varchar2	10		Board registration no.
Adm_no	Varchar2	10	Not null	Admission number
D_o_adm	Date			Date
D_o_birth	Date			Date
Address	Varchar2	30		Address of student
C_id	Varchar2	10		Unique class code
Sex	Varchar2	10		Gender
Roll_no	Varchar2	10		Roll number
Session	Varchar2	10		Session
Type_of_adm	Varchar2	10		Admission type

Table name	**Detailed marks sheet**
Primary key	**Sr_no**
Description	**To store detail marks of the students**

Table 6

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	5	Not null	Serial number
Adm_no	Varchar	10		Admission number
C_id	Varchar	10		Unique class code
Name	Vachar2	20		Name of student
Father_name	Varchar2	20		Father's name
Exam_roll_no	Varchar2	10		Exam roll number
Physics_science	Number	5		Marks in physics/science
Chemistry_civics	Number	5		Chemistry/civics
Biology_computer	Number	5		Biology/computer
English	Number	5		English
Mathematics	Number	5		Mathematics
Urdu	Number	5		Urdu
Islamiat	Number	5		Islamiat
Social_pak_studies	Number	5		Social/pak studies
Drawing_Arabic	Number	5		Drawing/Arabic
Total	Number	5		Total
Grade	Varchar2	5		Grade
Position	Varchar2	10		Position in class/exam
Remarks	Varchar2	30		Remarks
Datee	Date			date

Table name	**Co-curricular activities**
Primary key	**Sr_no**
Description	**To store the information co-curricular activities**

Table 7

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10	Not null	Serial number
C_id	Varchar2	10		Unique class code
Adm_no	Varchar2	10		Admission number
Games	Varchar2	30		Type of games
Act_name	Varchar2	30		Name of the activitiy
Status	Varchar2	30		Status
Year	Date			Date of activity

Table name Curricular activities

Primary key Sr_no

Description To store the information of curricular activities

Table 8

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10	Not null	Serial number
Class_attendence	Varchar2	10		Attendance in class
Home_work	Varchar2	30		Home work
Lab_attendence	Varchar2	10		Attendance in laboratory
Practical	Varcahr2	10		Practical done
Attitude	Varchar2	30		Comments about attitude
T_remarks	Varchar2	40		Teacher remarks
Adm_no	Varchar2	10		Admission number
C_id	Varchar	10		Unique class code

Table name	**Dues of classes**
Primary key	**Sr_no**
Description	**To store the information about dues**

Table 9

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Number	10	Not null	Serial number
Class_name	Varchar2	10		Name of the class
Fees	Number	10		Feeses
Funds	Number	10		Funds
Total	Number	10		Total

Table name	**Feeses**
Primary key	**Sr_no**
Description	**To store the information about feeses**

Table 10

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Number	10	Not null	Serial number
Admission_fee	Varchar2	5		Admission fee
Tution_fee	Varchar2	5		Tuition fee
Slc_fee	Varchar2	5		School leaving certificate fee

Table name **Funds**

Primary key **Sr_no**

Description **To store the information about the funds**

Table 11

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Number	10	Not null	Serial number
Std_fund	Number	5		Student fund
Furniture_fund	Number	5		Furniture fund
Sports_fund	Number	5		Sports fund
Lib_fund	Number	5		Library fund
Exam_fund	Number	5		Examination fund
Build_fund	Number	5		Building fund
R_dev_fund	Number	5		Regional fund

Table name Fees record

Primary key Sr_no

Description To store the information about fees record

Table 12

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10	Not null	Serial number
Adm_fee	Number	5		Admission fee
Tution_fee	Number	5		Tuition fee
Slc_fee	Number	5		School leaving fee
Late_fee	Number	5		Late fee
Receipt_date	Date			Receiving date
Total	Number	10		Total
Adm_no	Varchar2	10		Admission number
C_id	Varchar2	10		Unique class code

Table name Fees funds records

Primary key Sr_no

Description To store the information about fees & funds record

Table 13

FIELD NAME	DATA TYPE	LENGTH	CONSTRAINT/ REFERENCE	DESCRIPTION
Sr_no	Varchar2	10	Not null	Serial number
Fee_id	Varchar2	10		Unique fee number
Fund_id	Varchar2	10		Unique fund number
Tot_fee	Number	10		Total of fee
Tot_fund	Number	10		Total of funds
G_tot	Number	10		Grand total
Month	Varchar2	10		Month
Adm_no	Varchar2	10		Admission number
C_id	Varchar2	10		Unique class code

Chapter 5

System Development, implementation & testing

CHAPTER NO.5

SYSTEM DEVELOPMENT

Introduction:-

After the detailed study of the existing system and design of the proposed system comes the next very important phase called system development. It is the process in which we develop the system to meet the requirements and the objectives of the existing system and proposed system respectively. During development phase the software developer attempts to describe how data structures are to be designed and how the design of the system will be translated into programming language and testing is performed.

RDBMS

A DBMS (database management system) is basically a computerized record keeping system i.e. it is a computerized system whose overall purpose is to maintain information and to maintain that information and to make that information available on demand.

A relational database is a database that is perceived by its user as a collection of time-varying, normalized relations of assorted degrees. The software that manages relational database is known as relational database management system (RDBMS).

System Development

Some of the most common development approaches are as follow:

- Top down approach
- Bottom up approach
- Inside out approach
- Mixed approach

Out of these approaches, bottom up approach is used for the development of the proposed system. Since in this approach all the programs are developed separately which makes the system easy.

During development phase the design of the system is fully translated into a coded form called software, so the programming language characteristics and coding style can effect s/w quality maintainability.

Since Oracle/Developer 2000 has been selected for the development of the system, so some of the features used for the development are:

Developer/2000

After considering a number of relational database management systems available these days. DEVELOPER/2000 was

selected the product from ORACLE Corporation that makes if easy to build database applications it handles most of the issue elegantly and well using the features of Oracle 7.

DEVELOPER 2000 provides a number of sophisticated tools for the development of applications. Some of these tools are given as:

*ORACLE SQL *PLUS*

Oracle SQL *PLUS is an interface through which SQL commands may be entered and executed. We can use SQL *PLUS program in conjunction with SQL database language and its procedural language extension Pl/SQL.

The SQL database language allows us to store and retrieve data in Oracle. SQL *PLUS, and Pl/SQL command languages are powerful enough to serve the needs of users with some database experience. Yet straightforward enough for new users who are just learning to work with ORACLE.

*ORACLE *Forms*

The form component of DEVELOPER/2000 is the environmental component in which you develop, not surprisingly from modules. It also provides the development frame work for developing

menu and PL/SQL library modules. These forms provide fast and easy data entry updating, deletion and queries to an ORACLE database.

*ORACLE *Reports*

The report component of DEVELOPER/2000 is used to create different reports in a variety of styles. The reports designer also include libraries and data object. It can be used to produce a report derived from a single oracle table with column headings, columns of database information system and totals as desired.

Numbers of utilities are also available which allow easy manipulation of data. Structures along with the data stored in these structures. For example DEVELOPER/2000 provide import/export utilities with the help of which it is possible to move structure along with the data contained in these field, from one to an other.

System Development

Each system comprises of one or more component relation to one specific branch of system, a description of system components is given below:

Editors

Developer/2000 provides editors, which are:

- Layout Editor
- PL/SQL Editor
- Object Navigator

layout Editor

It is used for creating, formatting and arranging interface items and boilerplate graphics. It provides us with complete set of drawing and editing tools. It provides quick excess to frequently used commands.

PL/SQL Editor

It is used to write triggers, programs units, procedure etc.

Object Navigator

It is used to display editors. It provides work area for creating and modifying form objects.

Forms

A form application represents data in an online format consisting of a series of field laid out in one or more windows. They also provide a good way of executing and changing that information. You can

type data into the form fields or change that is in them, depending what the form designer let you does.

There is a particular kind of form called a master/detail form that divides the form into a master record and several detail records. Once a form has been designed, data entry operators need not to know the SQL commands.

Canvas

A canvas is the "surface" on which you paint objects like text item, push buttons and check boxes etc. The window is the "frame" or "border" which forms a "view port" for the user. The user may not see all of the canvas at any one time, only as much as the window on the canvas allows him to. This view is some time referred to as canvas view.

Block

Block is the intermediate building unit for forms. You can think of a block in two way: as a collection of items or as a collection of records, each of which has the same structure of items. Block usually corresponds to one table in the database. A form may have one or more blocks. A block contains a group of related field that are used to store some specific information.

Base Table

A database table, which is associated to a block, is called the base table for that block. This block contains all or some of the fields defined in that particular base table.

Field

A block item is the primary building unit of the form. Represent columns or data entry areas describe how the data should be displayed and validate. At the most basic level, field servers a container for data with in a form. A field is always owned by or associated with a block. Each block normally owns one or more fields.

Master Detail Relationship

A form may contain more than one block. These forms may have independent status. A block is called master block if in matter, there exists one ore multiple records in detail blocks. There is primary to foreign key relationship between blocks.

Trigger

A trigger is a block of PL/SQL code we write to customize we application. We use trigger to respond run time events with

appropriate processing. Triggers are set of processing commands. Triggers can be impose at field level and form level.

System Implementation

System implementation has the following two important sub phases:

- Testing
- Conversion

Testing

Software testing is a critical element of software quality assurance and is the bases for the system acceptance. It is the processing of executing program with the intent finding errors. Three basic strategies are:

- Direct cut-over
- Parallel conversion
- Pilot conversion

System Evaluation

System evaluation is the process of judgment to see whether the proposed system has met the desired goals and requirements. We also

see what are the draw backs in the proposed system and which things should be included in the system and which are missed.

Conclusion

Major features of the new developed system are:

- ***Effiency***

In the process of data entry instead of storing large and lengthy names respective codes are used. In this way most of the errors are reduced and processing is fast.

- ***Accuracy***

The system provides accurate outputs because data entry validation checks or applied at the time of data entry.

- ***User Friendly***

Every possible method has been used to reduce the errors at the time of data entry. For this purpose LOC's and validation checks are implemented so that only correct values are entered.

- ***CONSISTENCY***

Uniform notation has been used throughout the system. Efforts have been made to keep the data homogenous. This has been accomplished by reducing data redundancy, insertion and updating anomalies.

- ***DEVICE INDEPENDENCE***

While continuing to operate efficiently, the system can run on other machine with different operating system as well. Only some minor changes in parameter setting would be needed to accomplish this task.

- ***EASE OF USE***

The developed system is menu-driven. Help is provided at every possible point. Data entry, updation, query and report generation operations all are provided through a single screen. During data entry, the user can move between all the fields.

- ***Modularity***

The system is divided into a number of modules. These modules are integrated together to meet the requirements of the user. In this way the modifications enhancement is the proposed system is easy for example new queries and reports could be designed.

Chapter 6
User's Guide

CHAPTER NO6

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 I he 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 useful for the user of this application.

Log In And Out

Window 98 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 slop the ORACLE DBMS is also installed. It also performs maintenance and monitoring functions such as

- Initial Data **creation** ,» Data Backup
- Media Recovery

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.

Checking Secuiily

- Instance Started

- Data base Mounted
- Oracle Database Mounted Successfully

Now open form runtime from 'Developer 2000 R2.t', 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.

FORMS

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

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:'

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

MESSAGE LINE

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

RECORD MANIPULATION

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

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 fields 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.

DELETE RECORDS

In order to delete a record from a table, user should follow the following steps. Open the form corresponding to the tables 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 save from the toolbar. It is worth mentioning that in order to remove a parent record Us child record must be deleted first otherwise this deletes operation will result an error.

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 if 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 query' form the query menu of the form now enter a specific search criteria (condition) in the field and click 'execute' from Ihe query menu. You will see only those records, which are full filling the given criteria. The retrieved records may be one or more than one depending on the given condition.

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 lo repeat the same steps which you have studied in 2nd case of retrieving a specific records 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.

COUNTING QUERY RECORDS

Sometime we wont to know in advance how many records will be retrieved in response to the search condition with which we specify during 'enter query' operation. For this follow the steps

Press <enter query > key

Enter the search condition

Press 'count hits' from the query menu of the form

It will tell you the no of records that will be retrieved when you execute the query.

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.

SECURITY IMPLEMENTATION

The ORACLE user requires DBA privileges in order to create, shut down, starts up, and connects 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 functions. If not, then only the monitory and queering functions 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.

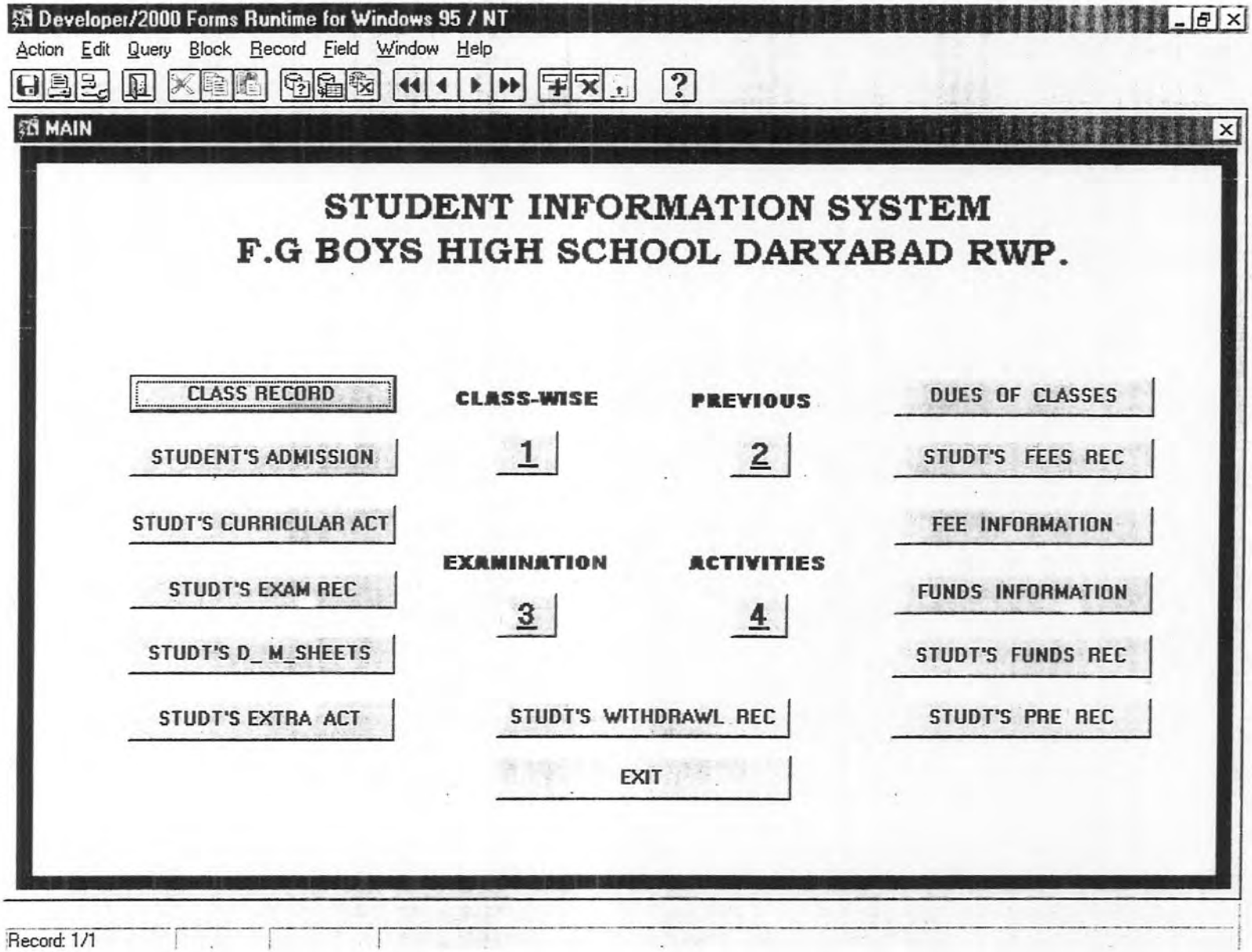
Help is provided to guide the User. Go to the help option where user guide is provided along with the brief introduction of the project.

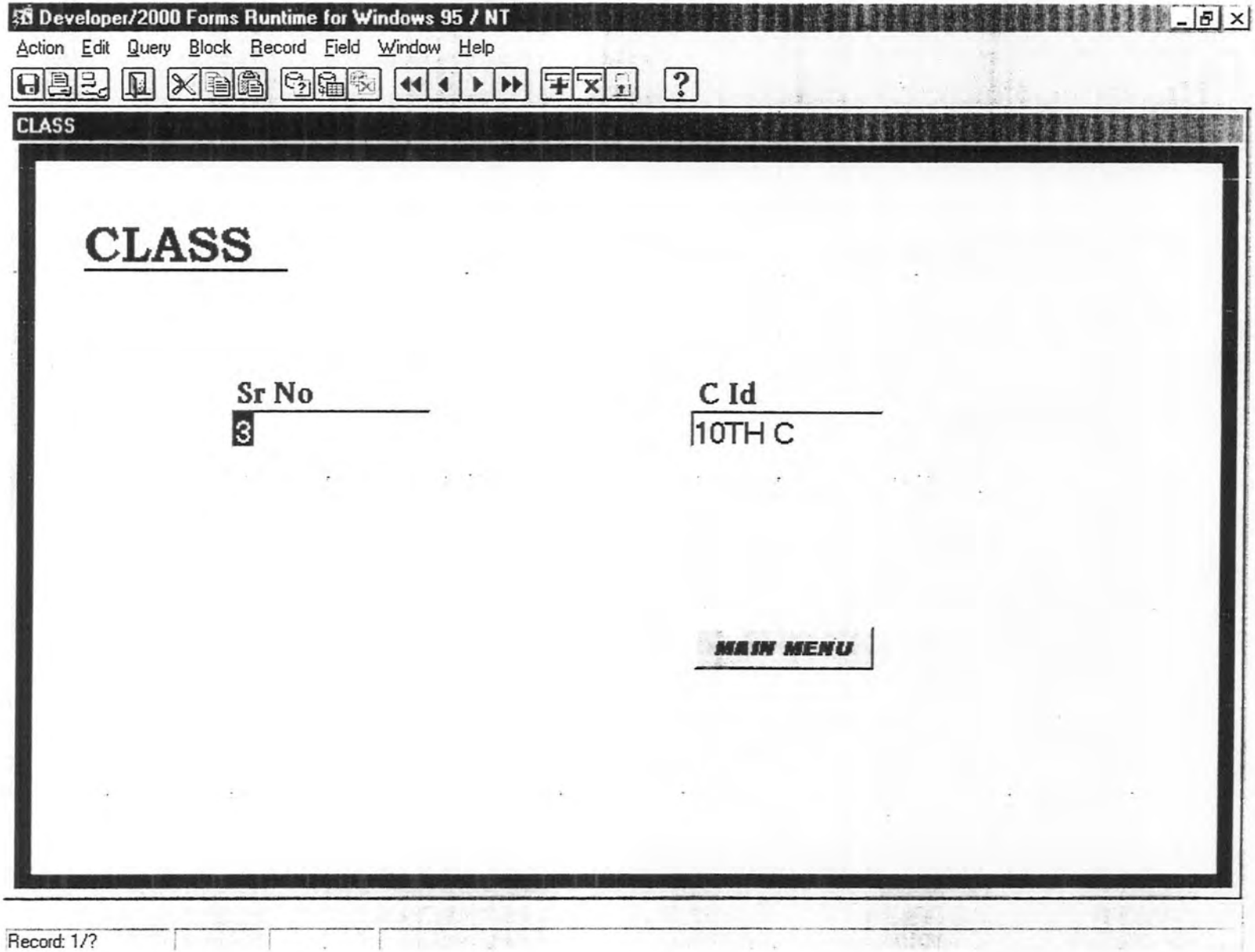
Special Consideration

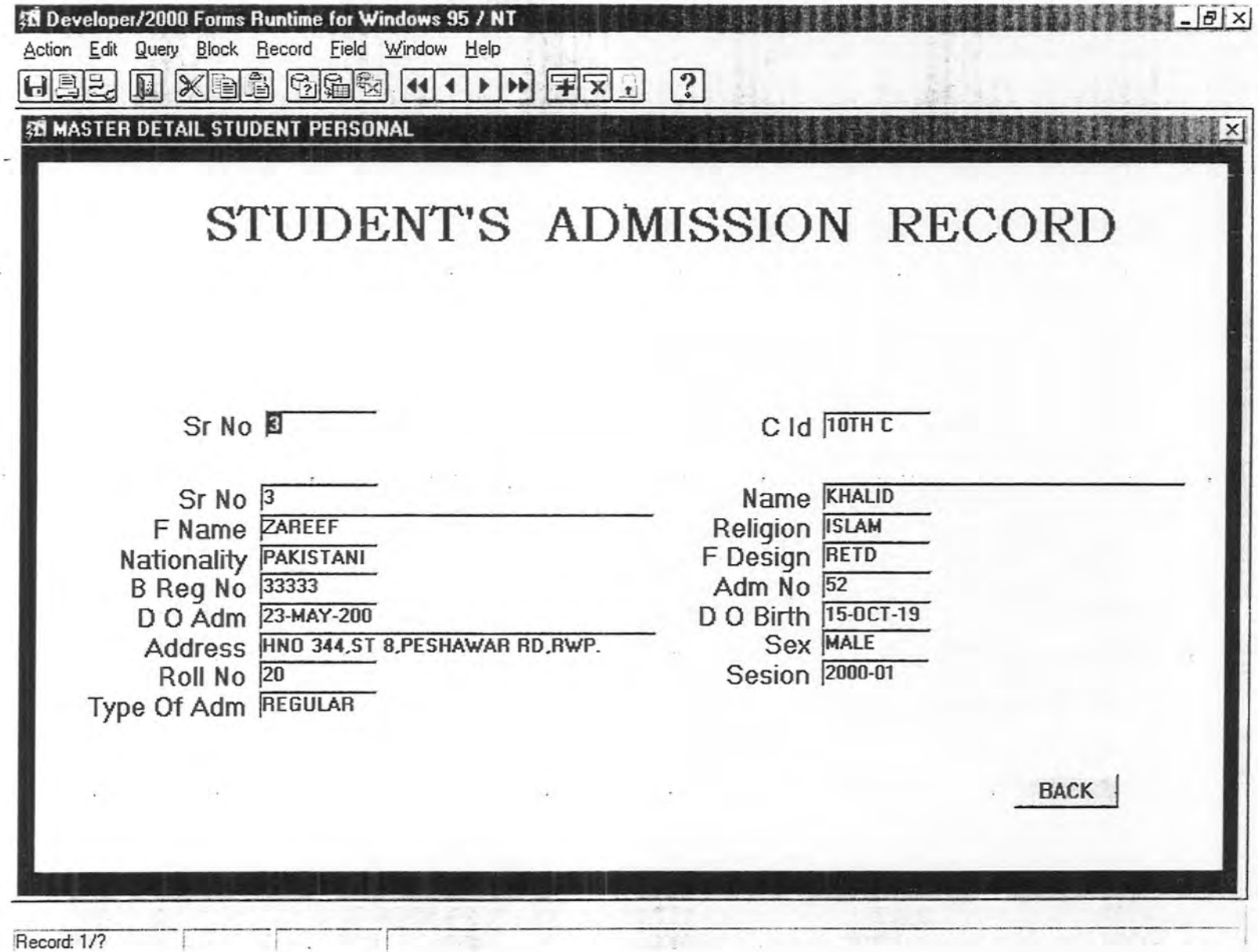
The system has been developed in oracle/Developer2000

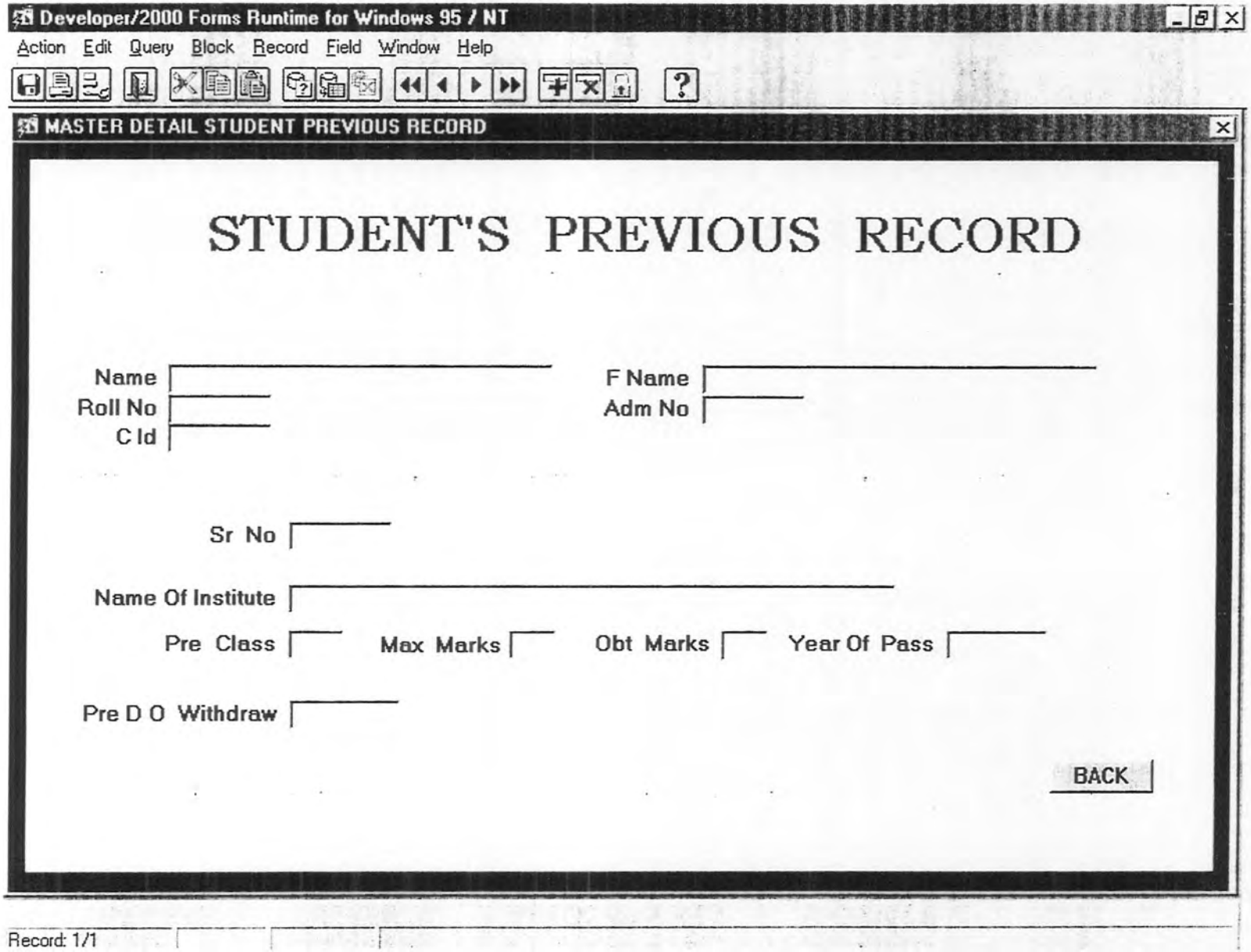
Window95 based. So to operate the system it is necessary that the user must have enough knowledge of windows95. Every user must have a login account and password assigned to him by the System administrator. Then he has the authority to access the system. The system should be carefully shut down and database should be dismounted properly, otherwise it will result in loss of data.

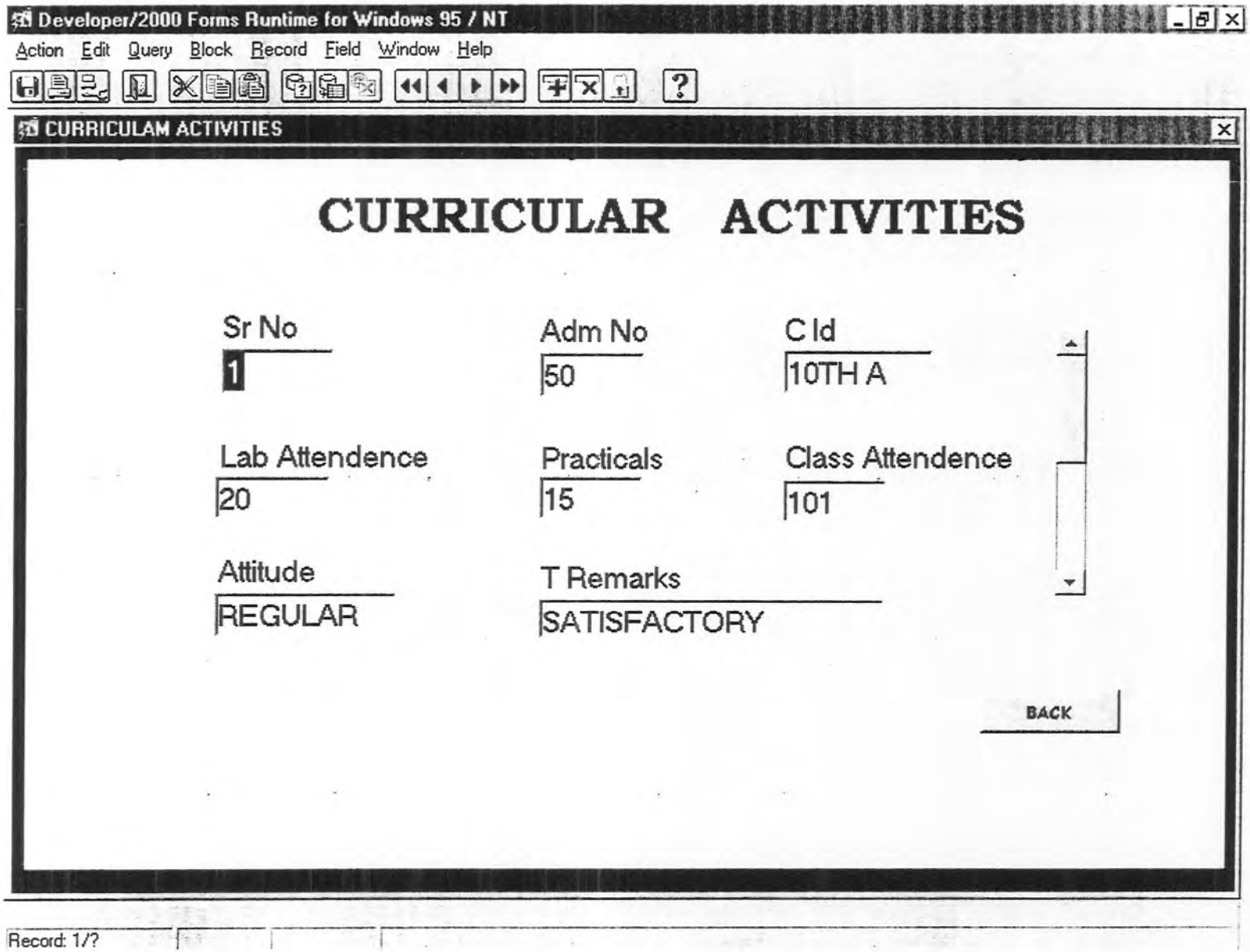
APPENDIX-A
DATA ENTERY
FORMS

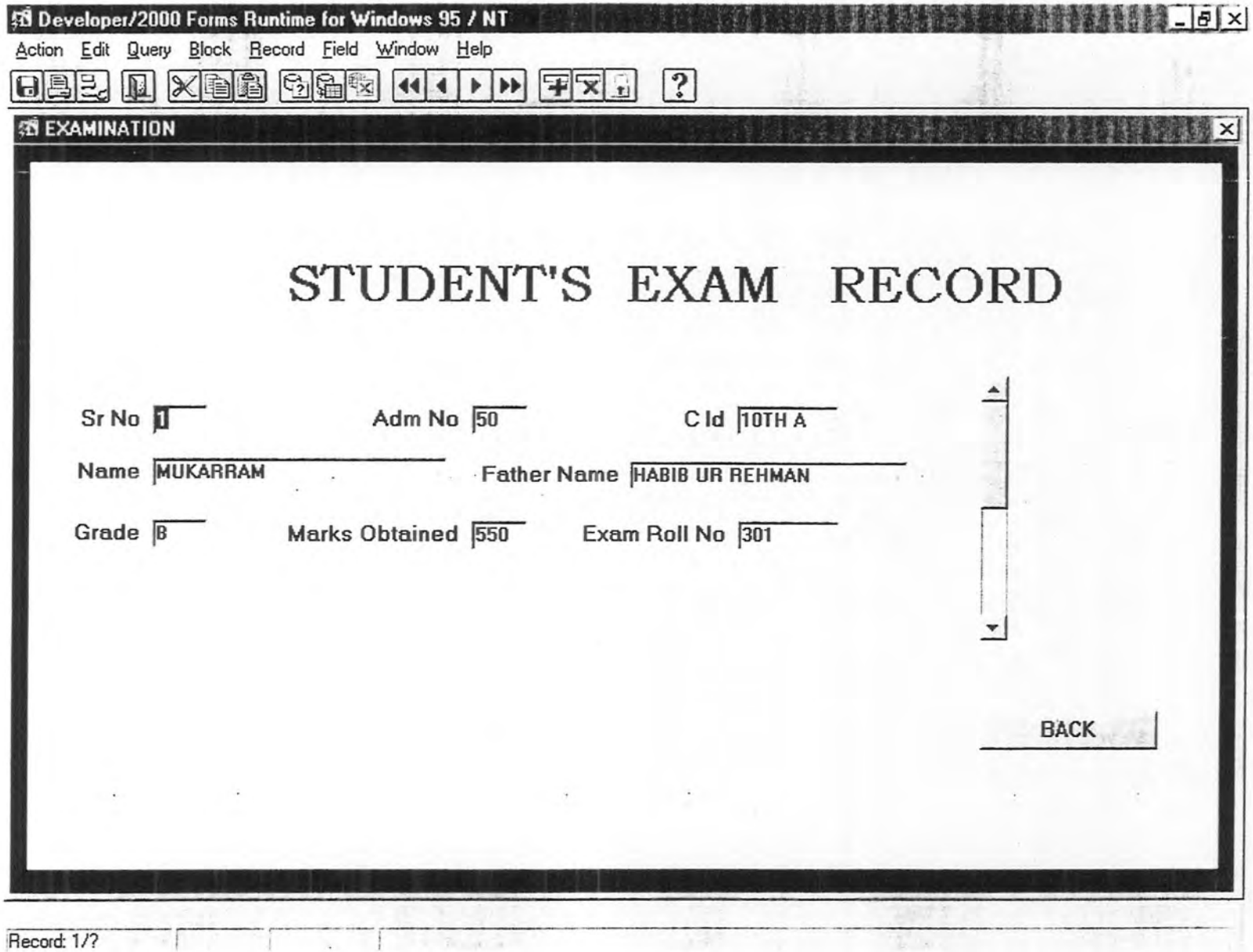

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
MAIN
STUDENT INFORMATION SYSTEM
F.G BOYS HIGH SCHOOL DARYABAD RWP.
CLASS RECORD
STUDENT'S ADMISSION
STUDT'S CURRICULAR ACT
STUDT'S EXAM REC
STUDT'S D_ M_SHEETS
STUDT'S EXTRA ACT
CLASS-WISE
1
PREVIOUS
2
EXAMINATION
3
ACTIVITIES
4
STUDT'S WITHDRAWL REC
EXIT
DUES OF CLASSES
STUDT'S FEES REC
FEE INFORMATION
FUNDS INFORMATION
STUDT'S FUNDS REC
STUDT'S PRE REC
Record: 1/1

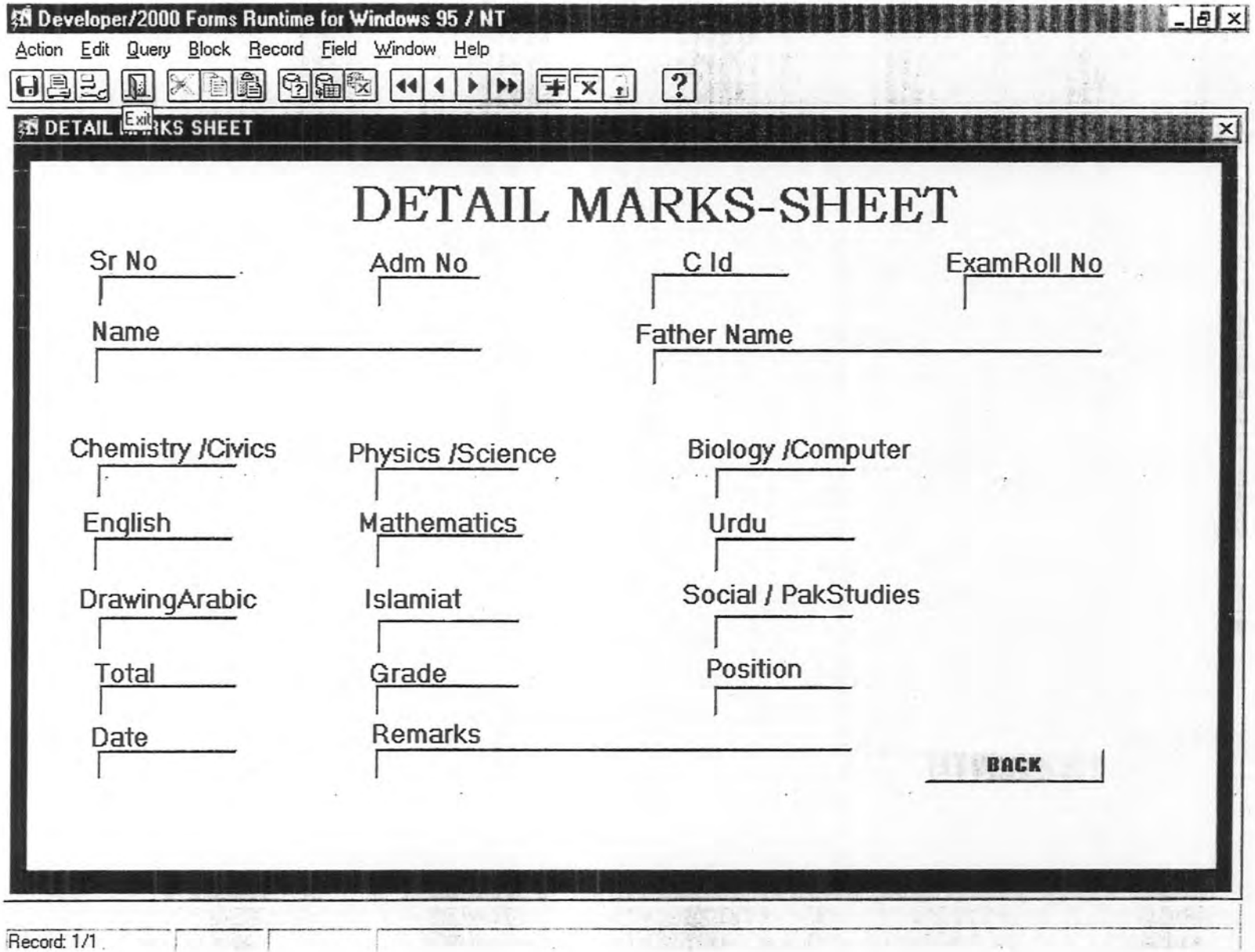

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
CLASS
CLASS
Sr No
3
C Id
10TH C
MAIN MENU
Record: 1/?

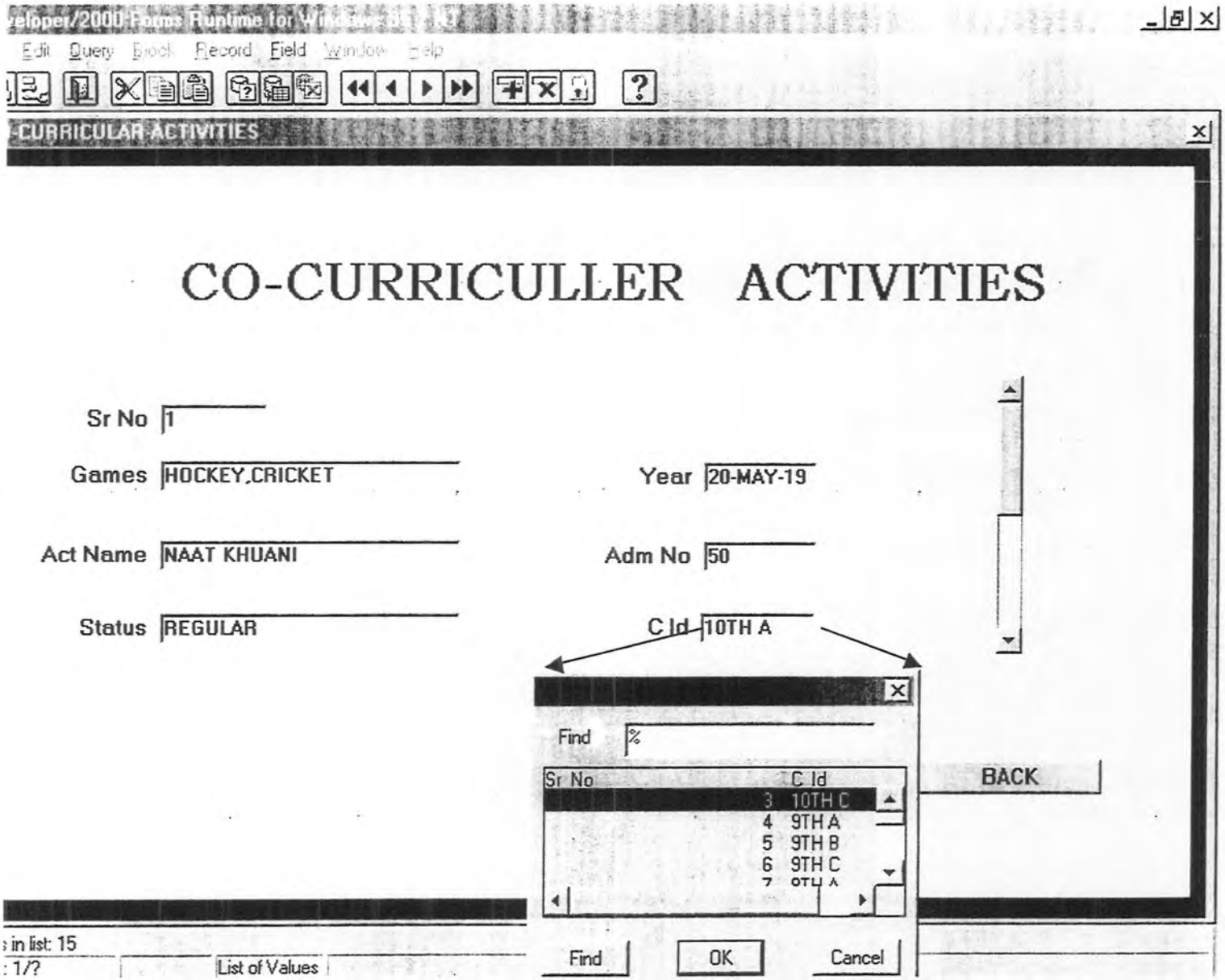

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
MASTER DETAIL STUDENT PERSONAL
STUDENT'S ADMISSION RECORD
Sr No 3
C Id 10TH C
Sr No 3
F Name ZAREEF
Nationality PAKISTANI
B Reg No 33333
D O Adm 23-MAY-200
Address HNO 344,ST 8,PESHAWAR RD,RWP.
Roll No 20
Type Of Adm REGULAR
Name KHALID
Religion ISLAM
F Design RETD
Adm No 52
D O Birth 15-OCT-19
Sex MALE
Sesion 2000-01
BACK
Record: 1/?

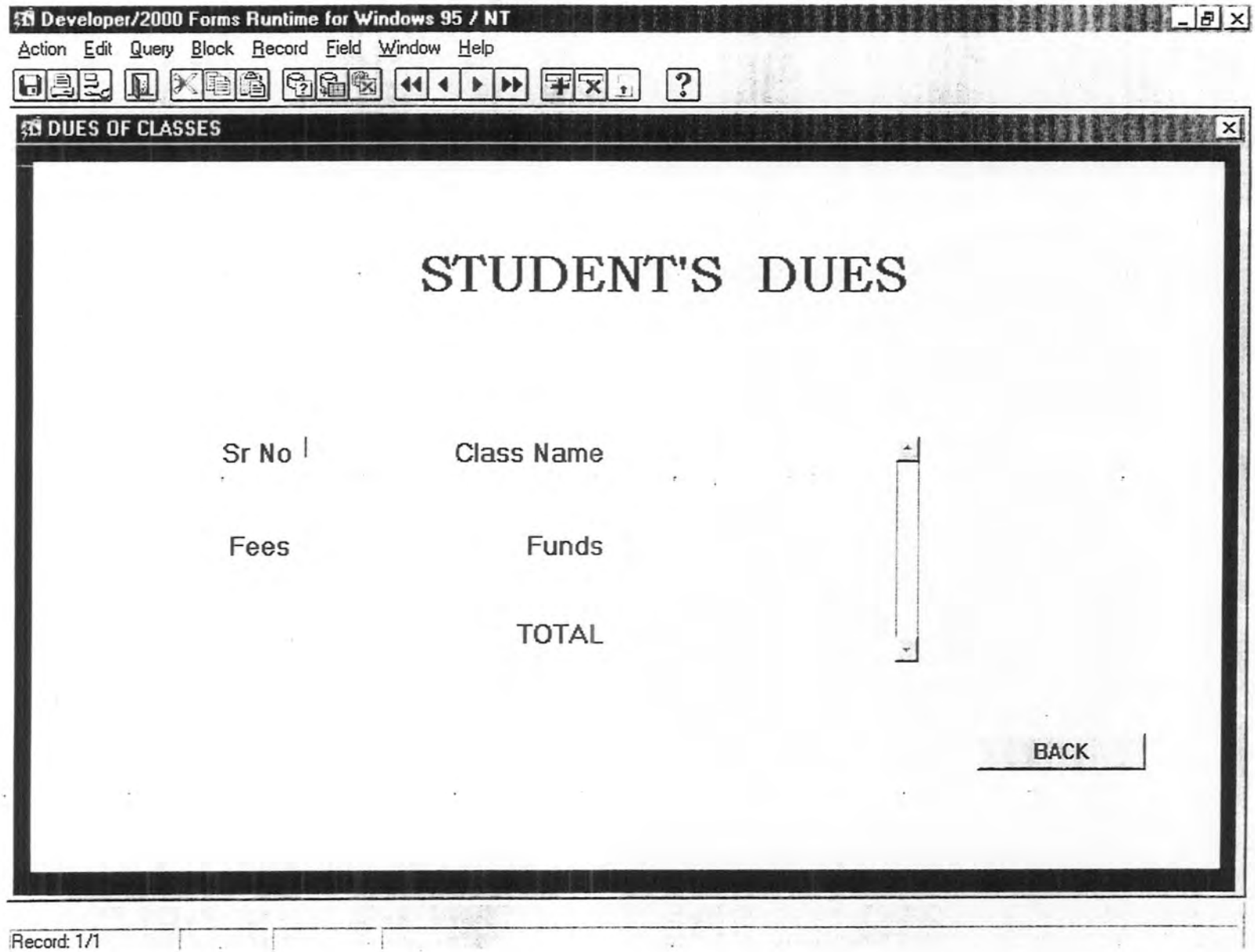

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
MASTER DETAIL STUDENT PREVIOUS RECORD
STUDENT'S PREVIOUS RECORD
Name
F Name
Roll No
Adm No
C Id
Sr No
Name Of Institute
Pre Class
Max Marks
Obt Marks
Year Of Pass
Pre D O Withdraw
BACK
Record: 1/1

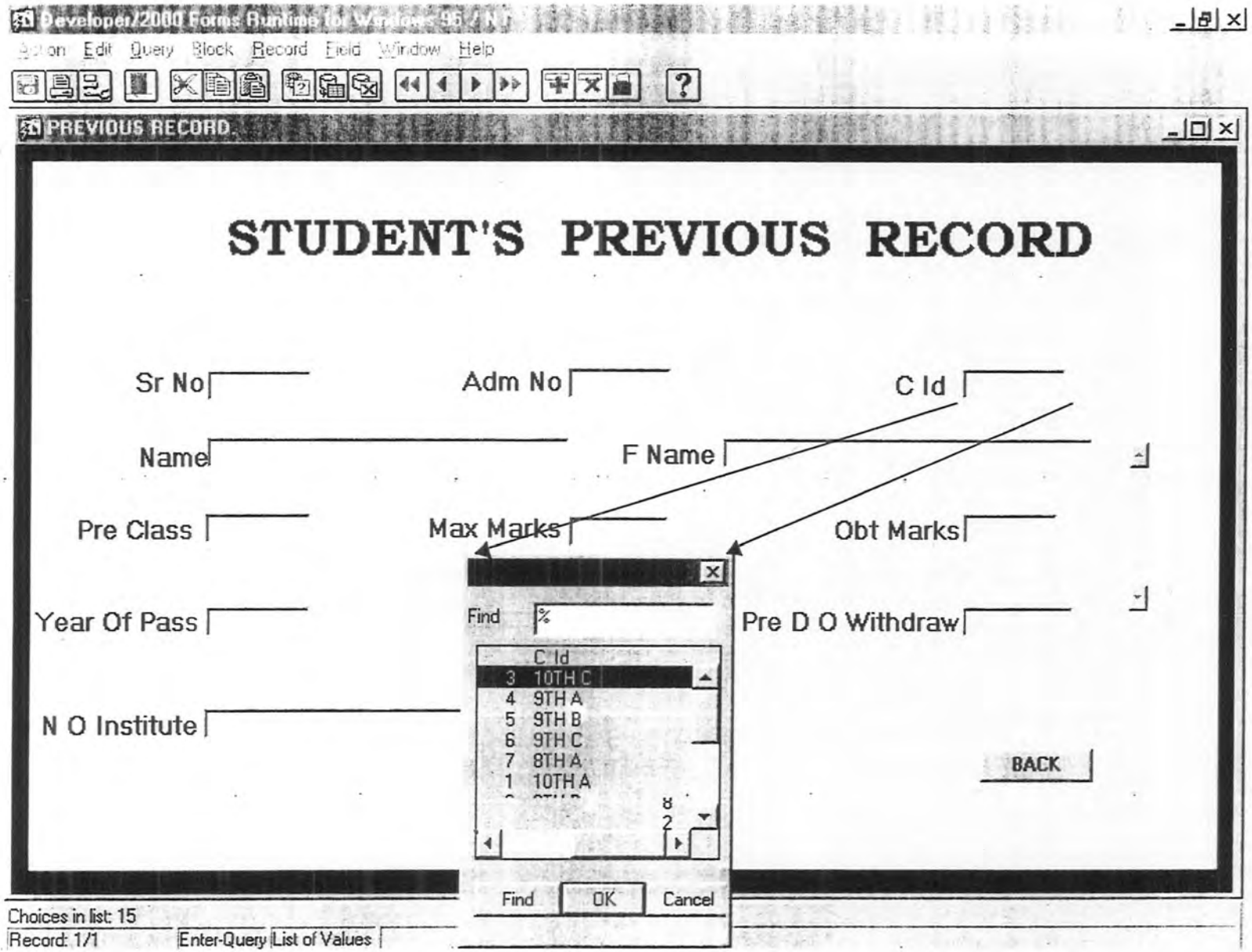

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
CURRICULAM ACTIVITIES
CURRICULAR ACTIVITIES
Sr No
1
Adm No
50
C Id
10TH A
Lab Attendence
20
Practicals
15
Class Attendence
101
Attitude
REGULAR
T Remarks
SATISFACTORY
BACK
Record: 1/?

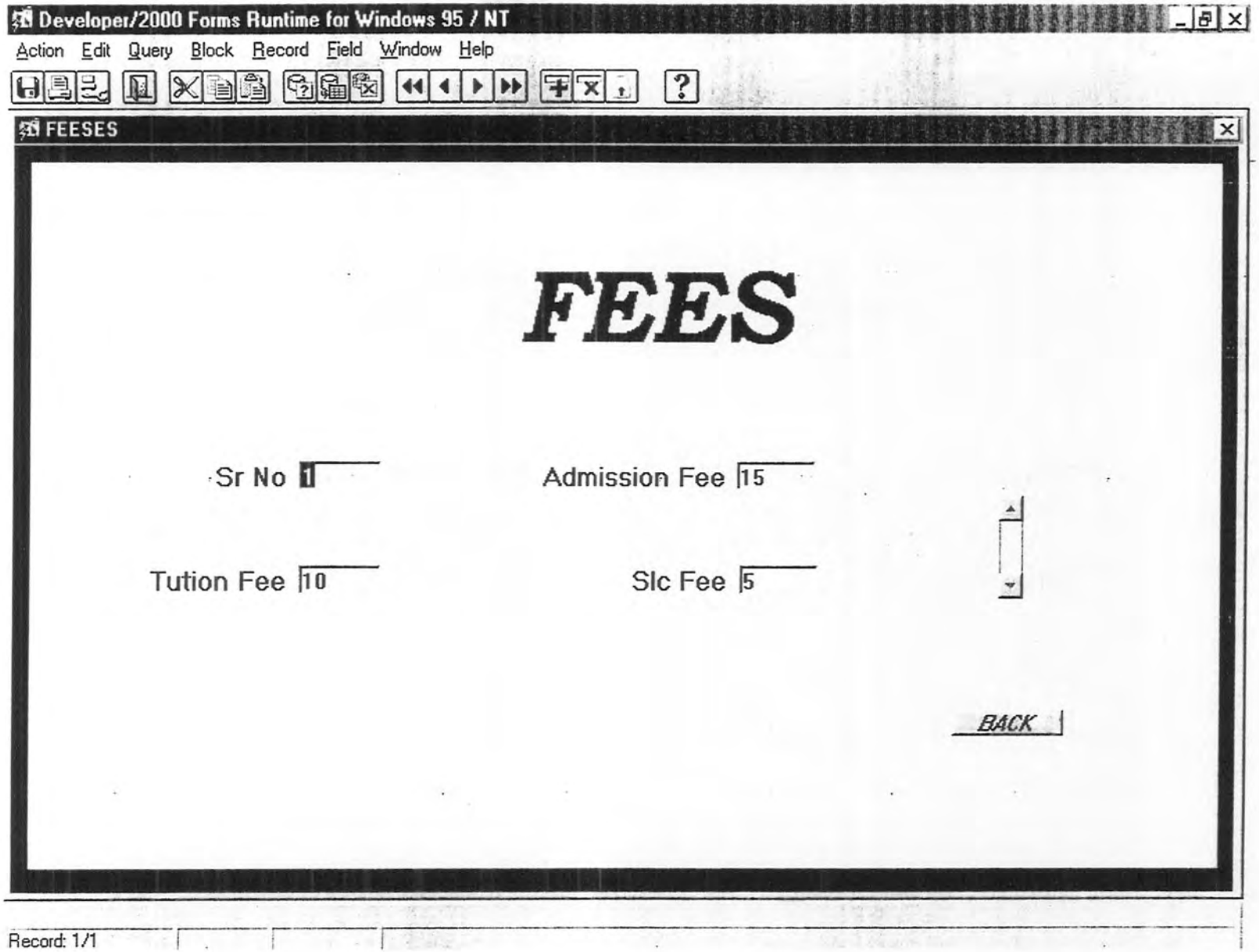

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
EXAMINATION
STUDENT'S EXAM RECORD
Sr No 1
Adm No 50
C Id 10TH A
Name MUKARRAM
Father Name HABIB UR REHMAN
Grade B
Marks Obtained 550
Exam Roll No 301
BACK
Record: 1/?

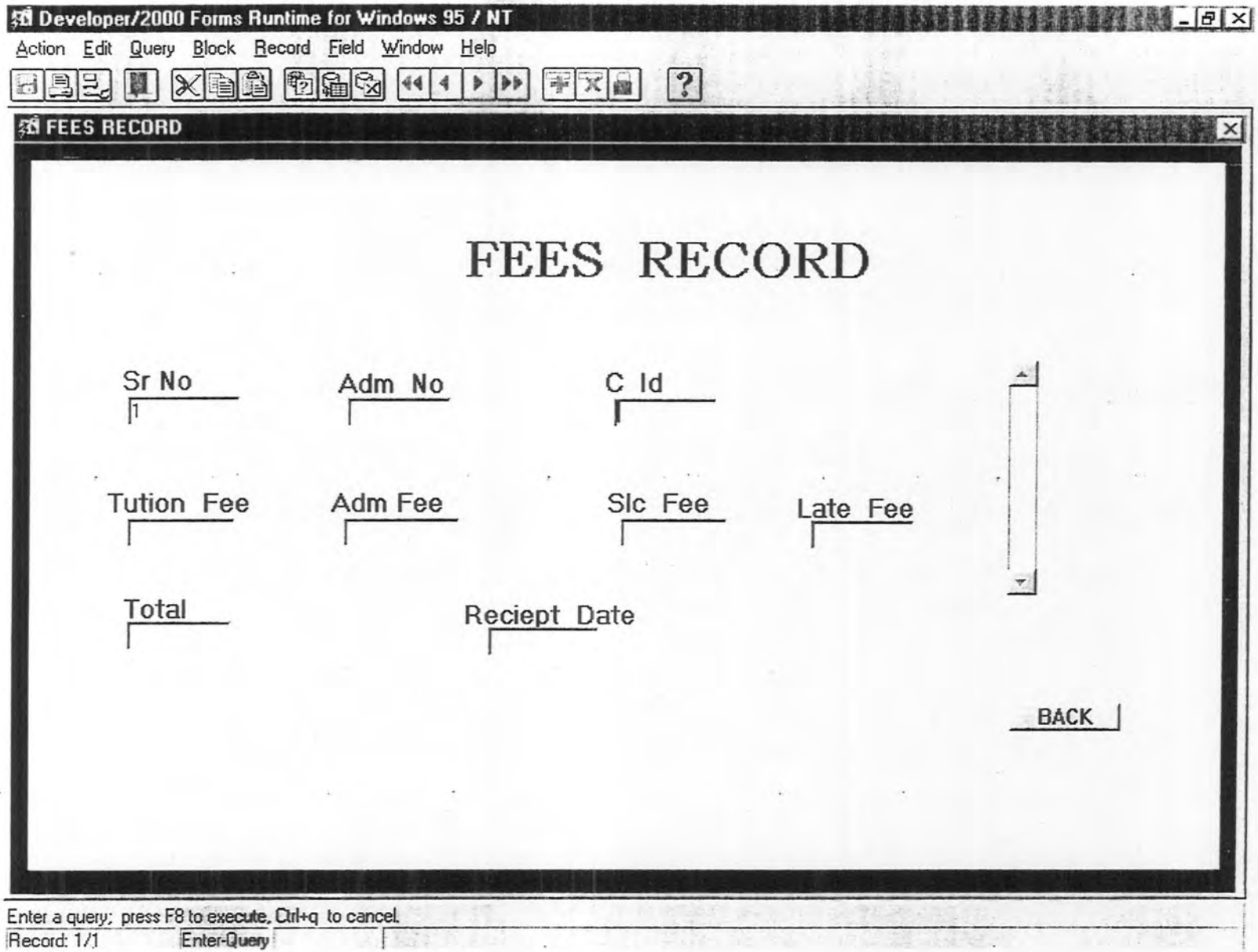

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
Exit
DETAIL MARKS SHEET
DETAIL MARKS-SHEET
Sr No
Adm No
C Id
ExamRoll No
Name
Father Name
Chemistry /Civics
Physics /Science
Biology /Computer
English
Mathematics
Urdu
DrawingArabic
Islamiat
Social / PakStudies
Total
Grade
Position
Date
Remarks
BACK
Record: 1/1

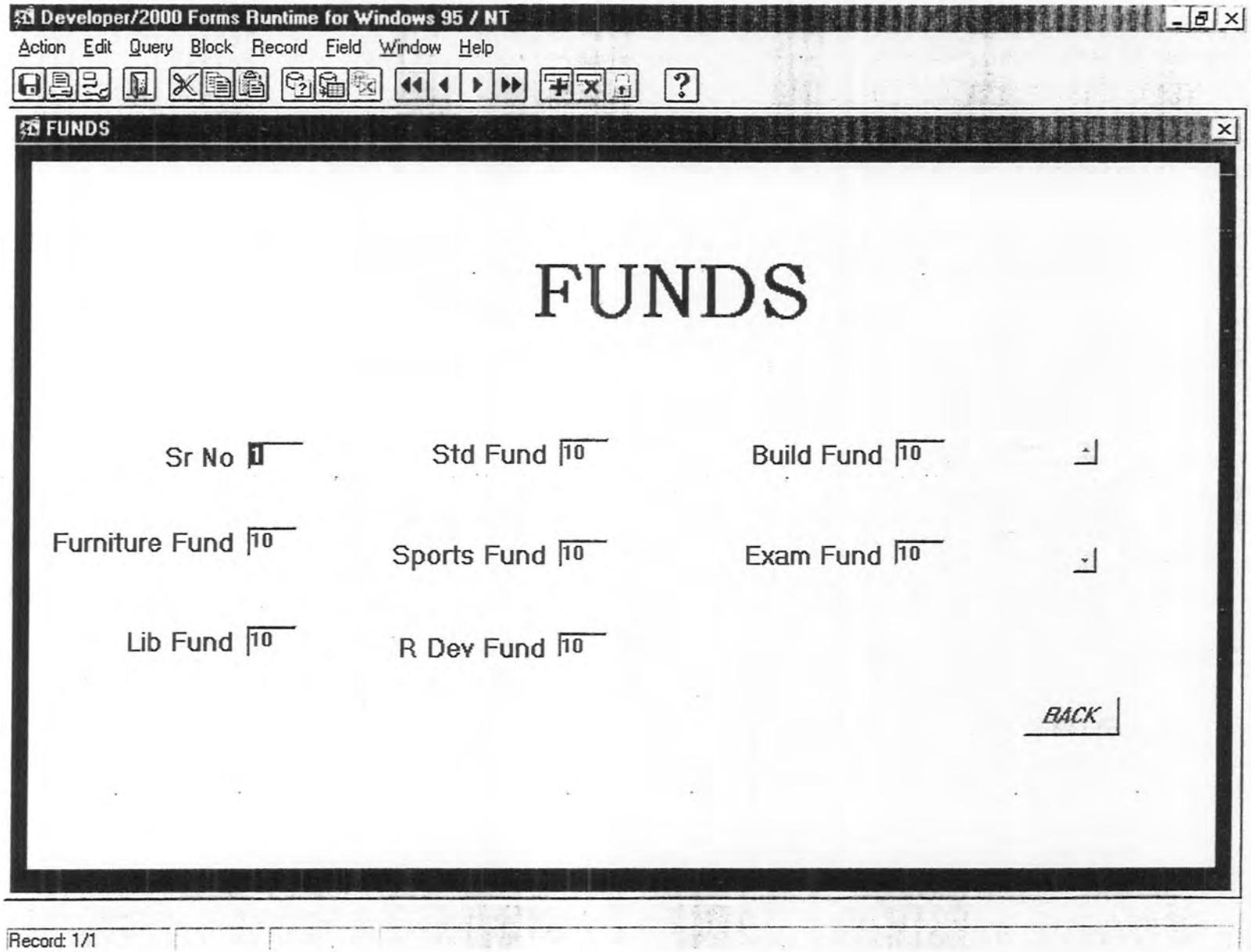

Edit Query Block Record Field Window Help
CURRICULAR ACTIVITIES
CO-CURRICULLER ACTIVITIES
Sr No 1
Games HOCKEY,CRICKET
Year 20-MAY-19
Act Name NAAT KHUANI
Adm No 50
Status REGULAR
C Id 10TH A
BACK
Find %
Sr No
C Id
3 10TH C
4 9TH A
5 9TH B
6 9TH C
Find
OK
Cancel
in list: 15
1/?
List of Values

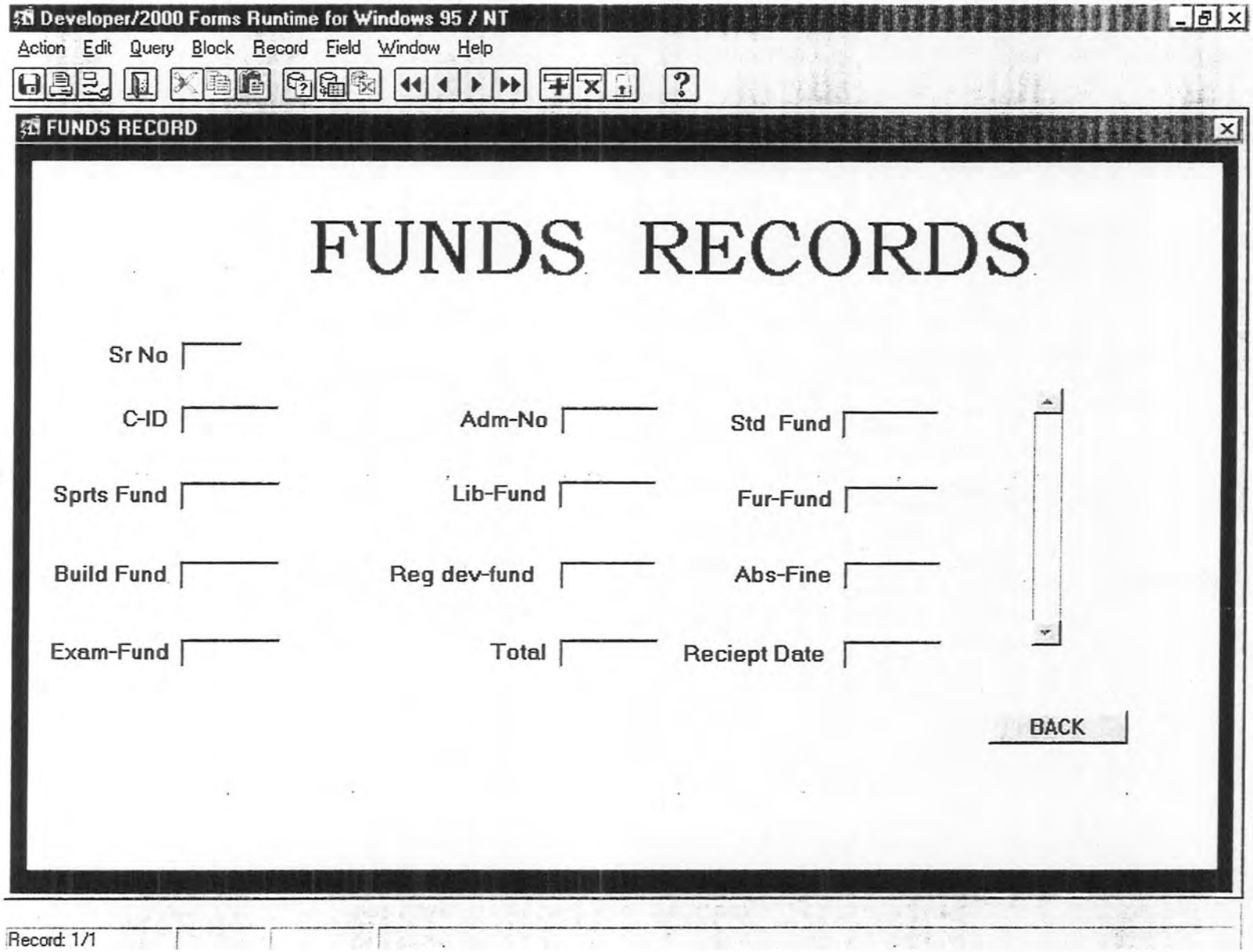

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
DUES OF CLASSES
STUDENT'S DUES
Sr No
Class Name
Fees
Funds
TOTAL
BACK
Record: 1/1

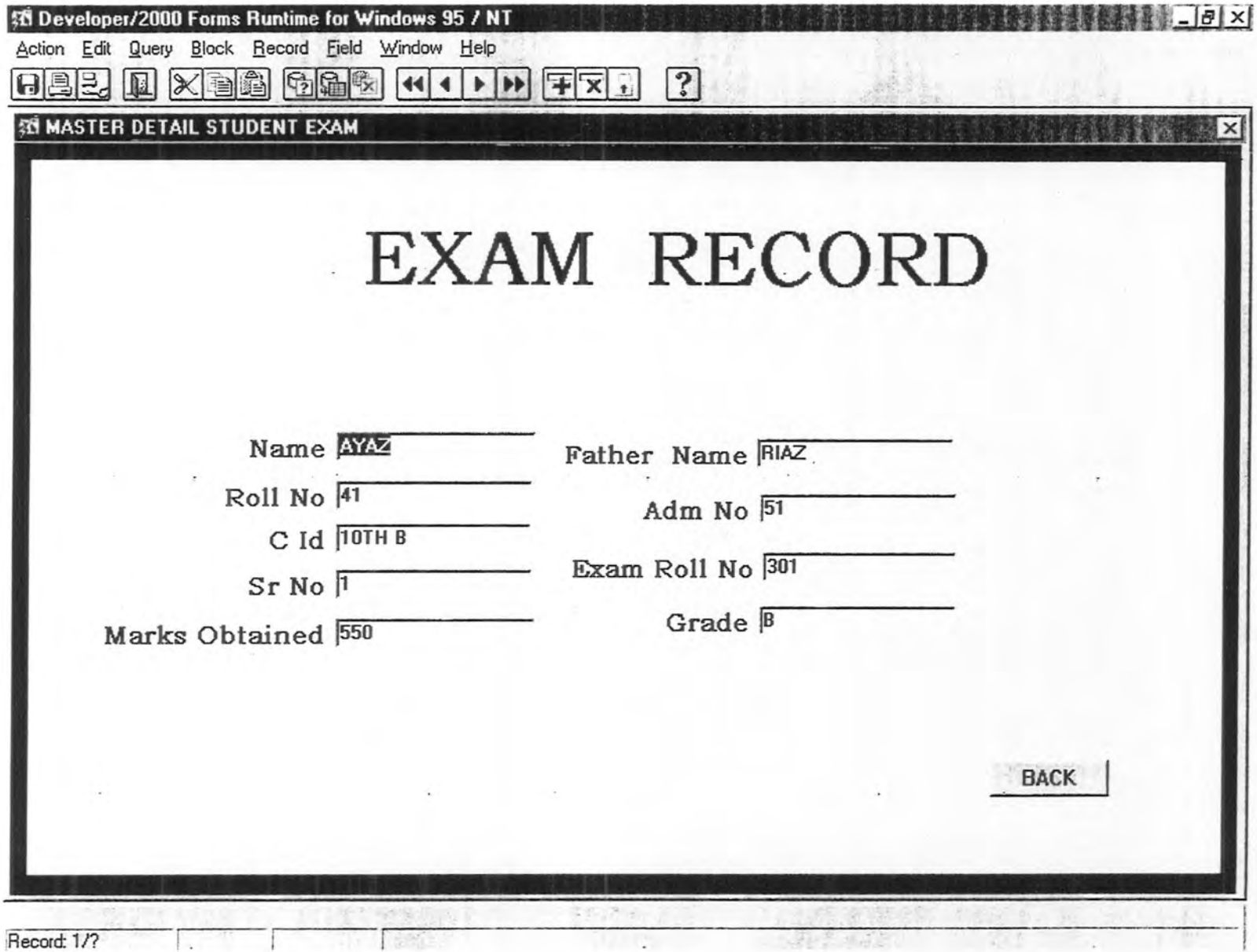

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
PREVIOUS RECORD
STUDENT'S PREVIOUS RECORD
Sr No
Adm No
C Id
Name
F Name
Pre Class
Max Marks
Obt Marks
Year Of Pass
Pre D O Withdraw
N O Institute
BACK
Find
%
C Id
3 10TH C
4 9TH A
5 9TH B
6 9TH C
7 8TH A
1 10TH A
Find
OK
Cancel
Choices in list: 15
Record: 1/1
Enter-Query
List of Values

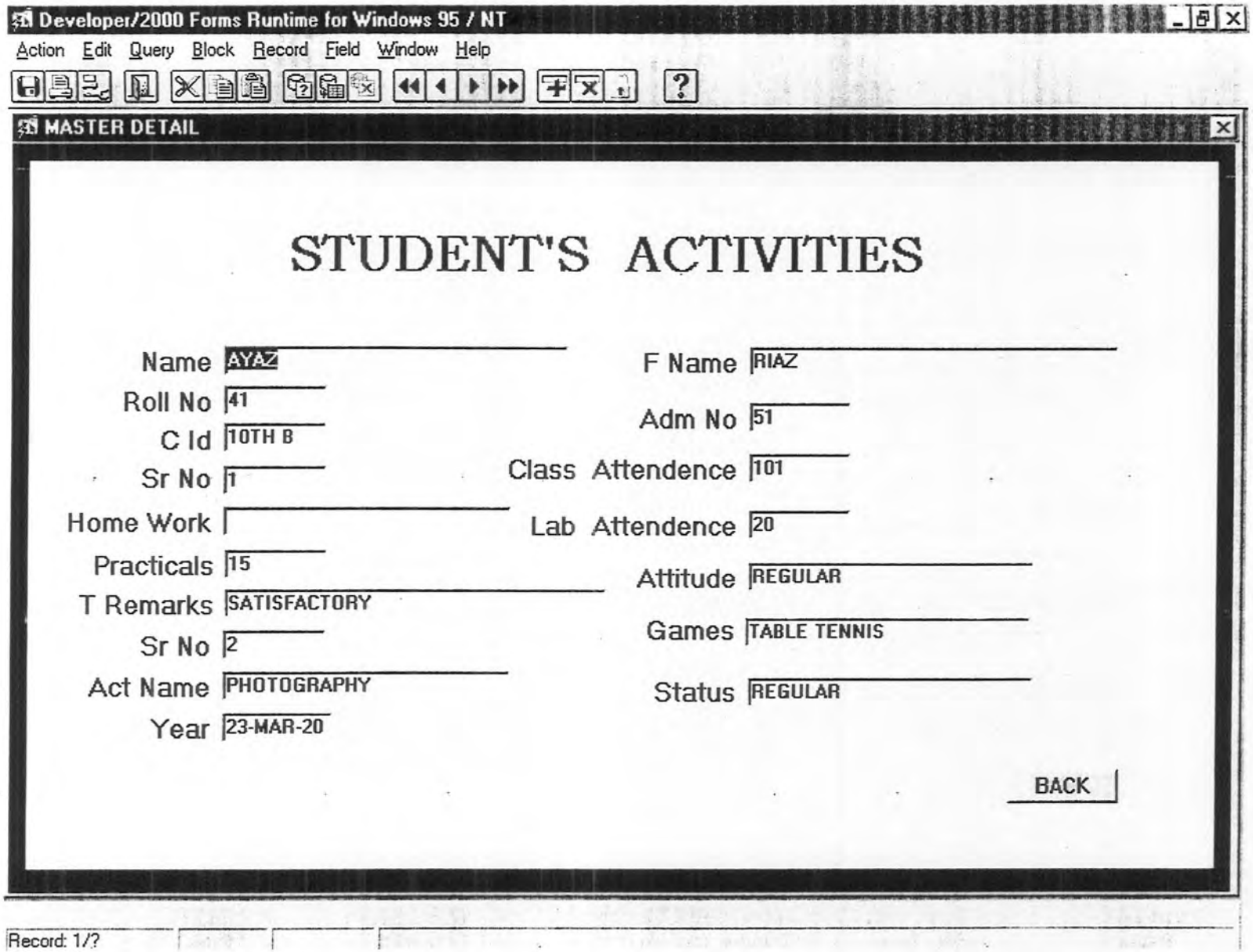

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
FEESES
FEES
Sr No 1
Admission Fee 15
Tution Fee 10
Slc Fee 5
BACK
Record: 1/1

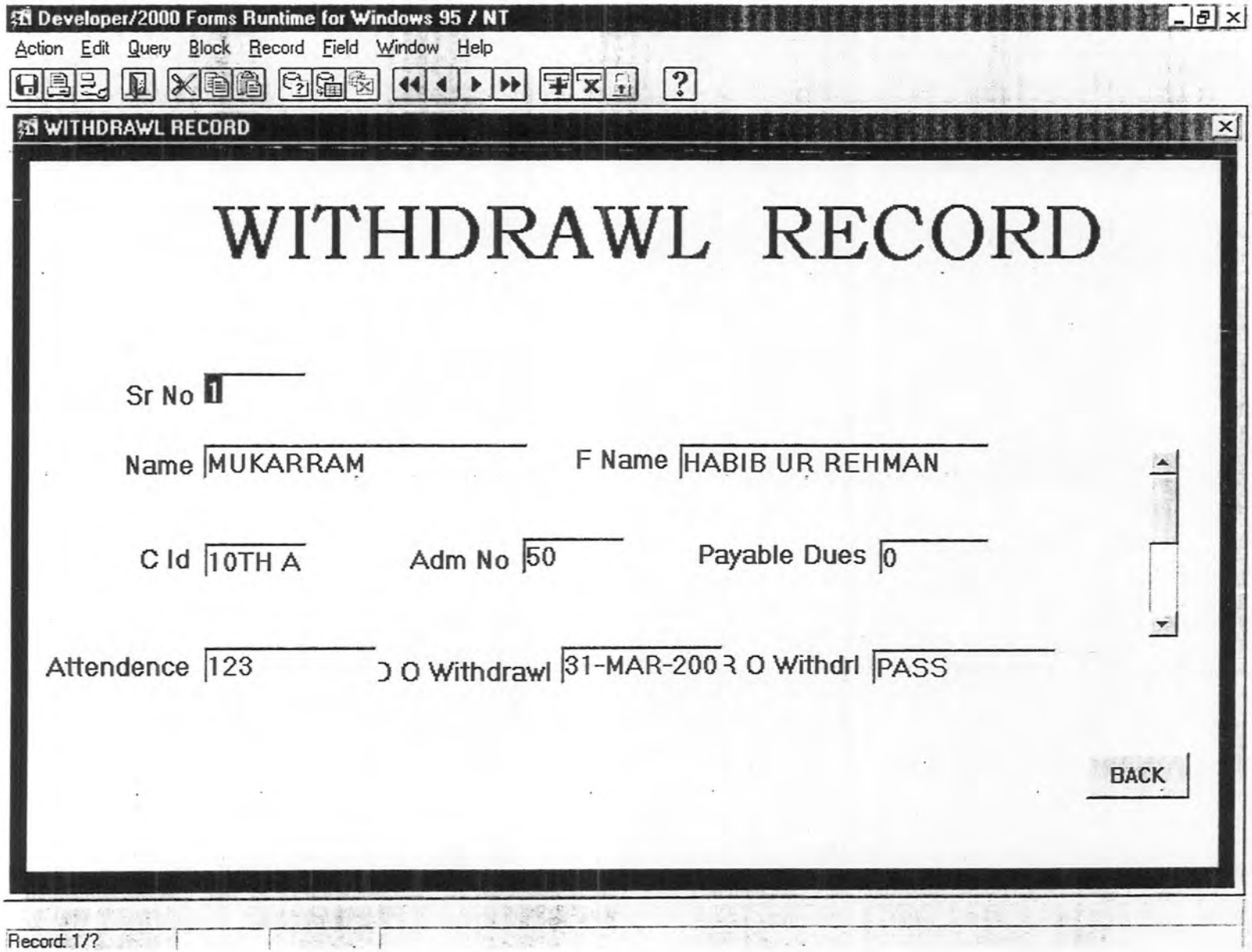

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
FEES RECORD
FEES RECORD
Sr No
1
Adm No
C Id
Tution Fee
Adm Fee
Slc Fee
Late Fee
Total
Reciept Date
BACK
Enter a query; press F8 to execute, Ctrl+q to cancel.
Record: 1/1
Enter-Query


Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
FUNDS
FUNDS
Sr No 1
Std Fund 10
Build Fund 10
Furniture Fund 10
Sports Fund 10
Exam Fund 10
Lib Fund 10
R Dev Fund 10
BACK
Record: 1/1


Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
FUNDS RECORD
FUNDS RECORDS
Sr No
C-ID
Adm-No
Std Fund
Sprts Fund
Lib-Fund
Fur-Fund
Build Fund
Reg dev-fund
Abs-Fine
Exam-Fund
Total
Reciept Date
BACK
Record: 1/1

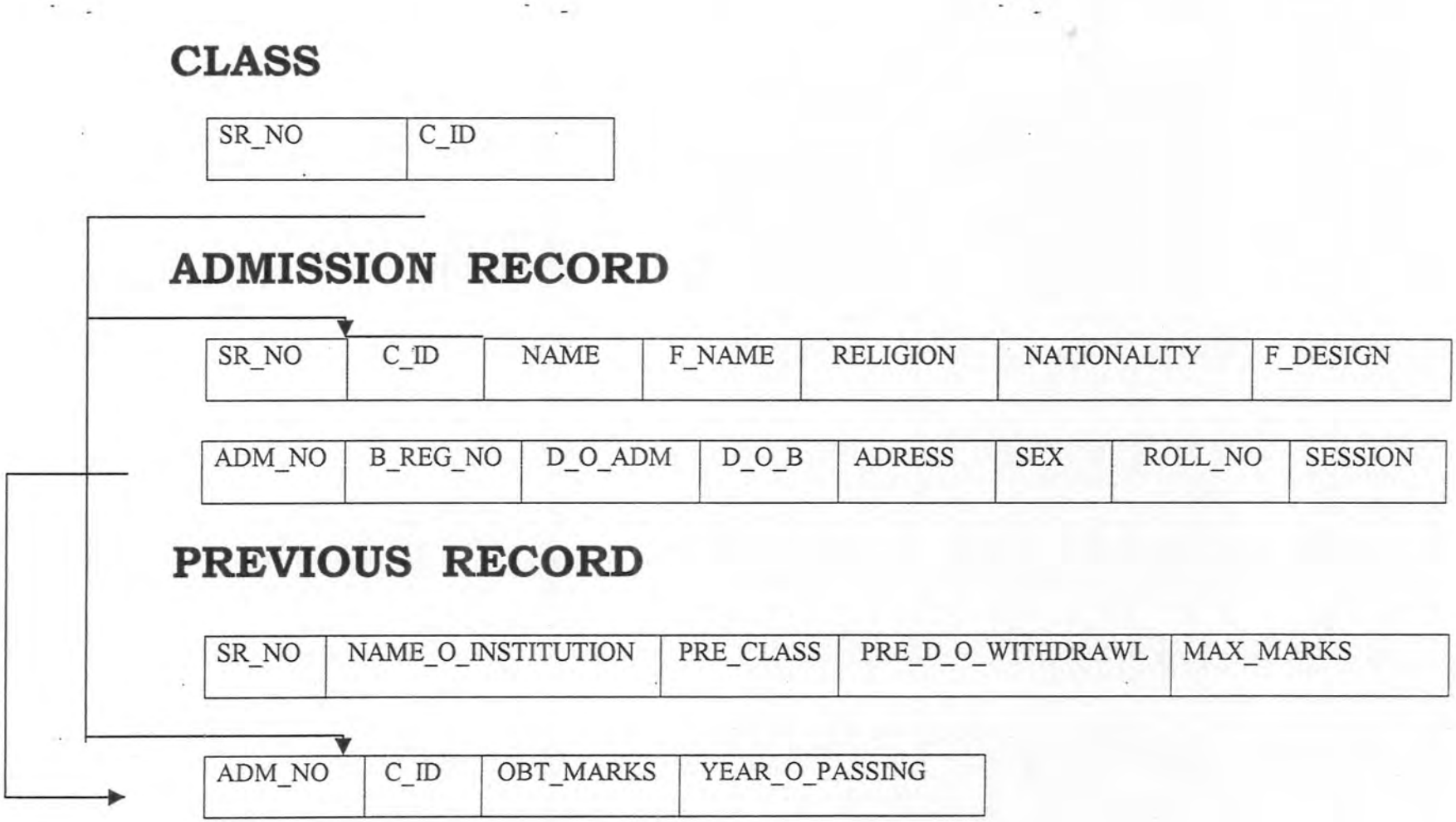

Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
MASTER DETAIL STUDENT EXAM
EXAM RECORD
Name AYAZ
Roll No 41
C Id 10TH B
Sr No 1
Marks Obtained 550
Father Name RIAZ
Adm No 51
Exam Roll No 301
Grade B
BACK
Record: 1/?


Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
MASTER DETAIL
STUDENT'S ACTIVITIES
Name AYAZ
Roll No 41
C Id 10TH B
Sr No 1
Home Work
Practicals 15
T Remarks SATISFACTORY
Sr No 2
Act Name PHOTOGRAPHY
Year 23-MAR-20
F Name RIAZ
Adm No 51
Class Attendence 101
Lab Attendence 20
Attitude REGULAR
Games TABLE TENNIS
Status REGULAR
BACK
Record: 1/?


Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
WITHDRAWL RECORD
WITHDRAWL RECORD
Sr No 1
Name MUKARRAM
F Name HABIB UR REHMAN
C Id 10TH A
Adm No 50
Payable Dues 0
Attendence 123
D O Withdrawl 31-MAR-200
R O Withdrl PASS
BACK
Record: 1/?

APPENDIX-B
BACHMANN DIAGRAM

BATCHMANN DIAGRAM



A C

EXAM RECORD

SR_NO	ADM_NO	C_ID	EXAM_ID	EXAM_R_NO	T_MARKS	M_OBT	GRADE	SESSION

CO-CURRICULUM ACTIVITIES

SR_NO	GAMES	ACT-NAME	STATUS	YEAR	ADM_NO	C-Id

CURRICULUM ACTIVITIES

SR_NO	CLASS ACTIVITIES	HOME_WORK	LAB-ATTENDANCE	PRACTICLES	ATTITUDET-REMARKS	ADM-NO	C-ID

WITH-DRAWL RECORD

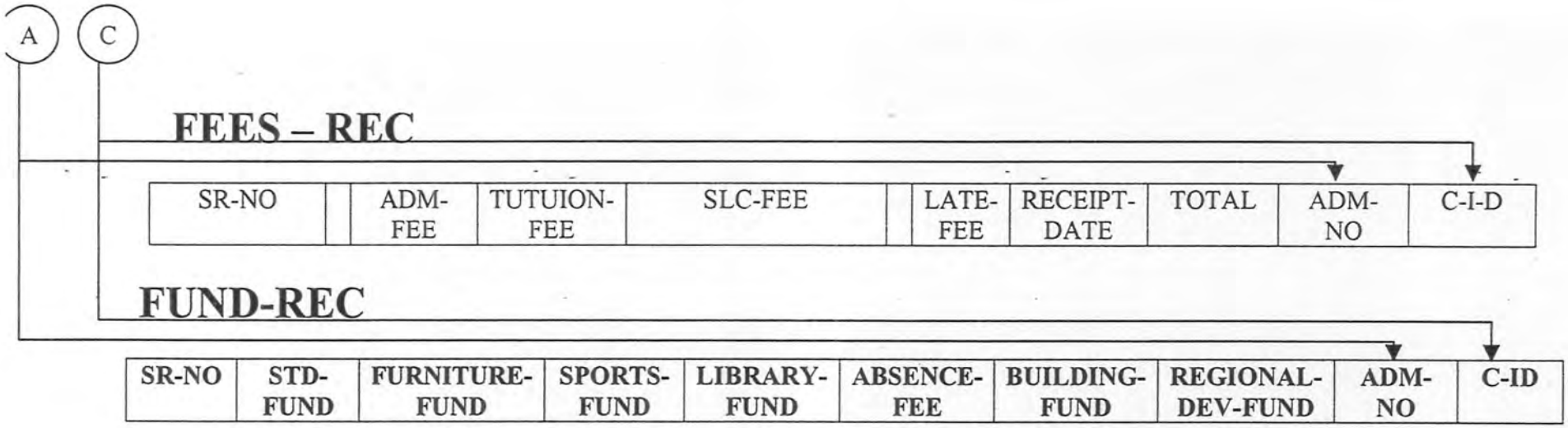
SR_NO	F-NAME	PAYABLE-DUES	D-O-WIRHDRAWL	ATTENDANCE	ADM-NO	C-ID	REASON-O-WITHDRAWL

DETAIL MARKS SHEET

SR_NO	ADM_NO	C_ID	NAME	F_NAME	EXAM_ROLL_NO	PHY_SCIENCE	CHE_CIVICS

BIO_COMPUTER	ENGLISH	MATHEMATICS	URDU	ISLAMIAT	SOCIAL_PAK_STUDS

DRAW_ARABIC	TOTAL	GRADE	POSITION	REMARKS	DATE



DUES-OF-CLASSES

SR-NO	CLASS-NAME	FEES	FUNDS	TOTAL

FEESES

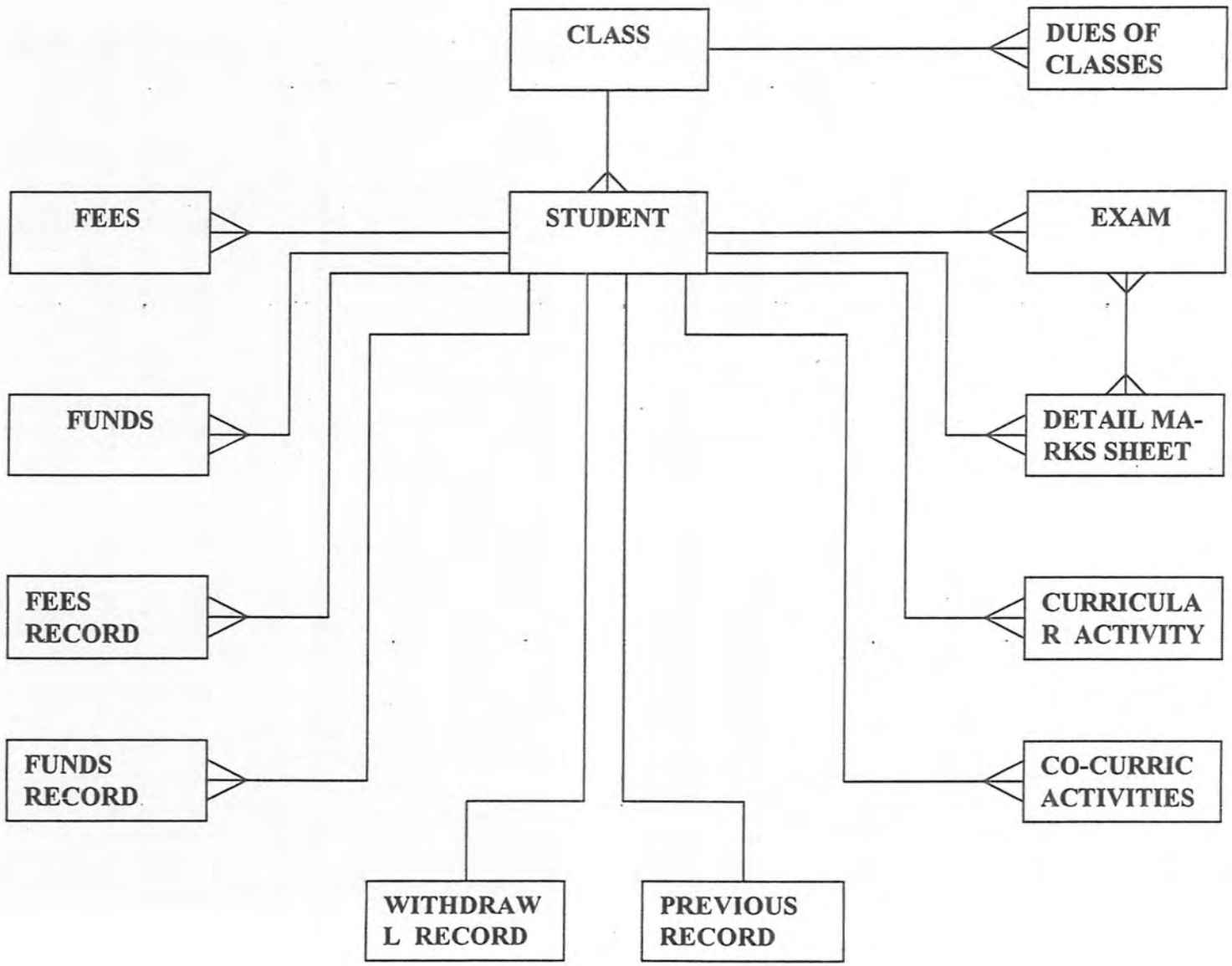
SR-NO	ADM-FEE	TUTION-FEE	SLC-FEE

Funds

SR-NO	STD-FUND	FURNITURE-FUND	SPORTS-FUND	LIBRARY-FUND	EXAM-FUND	BUILDING-FUND	REGIONAL-FUND	BUILDING-FUND	REGIONAL-DEV-FUND

APPENDIX-C
E.R.D.

ENTITY RELATIONSHIP DIAGRAM

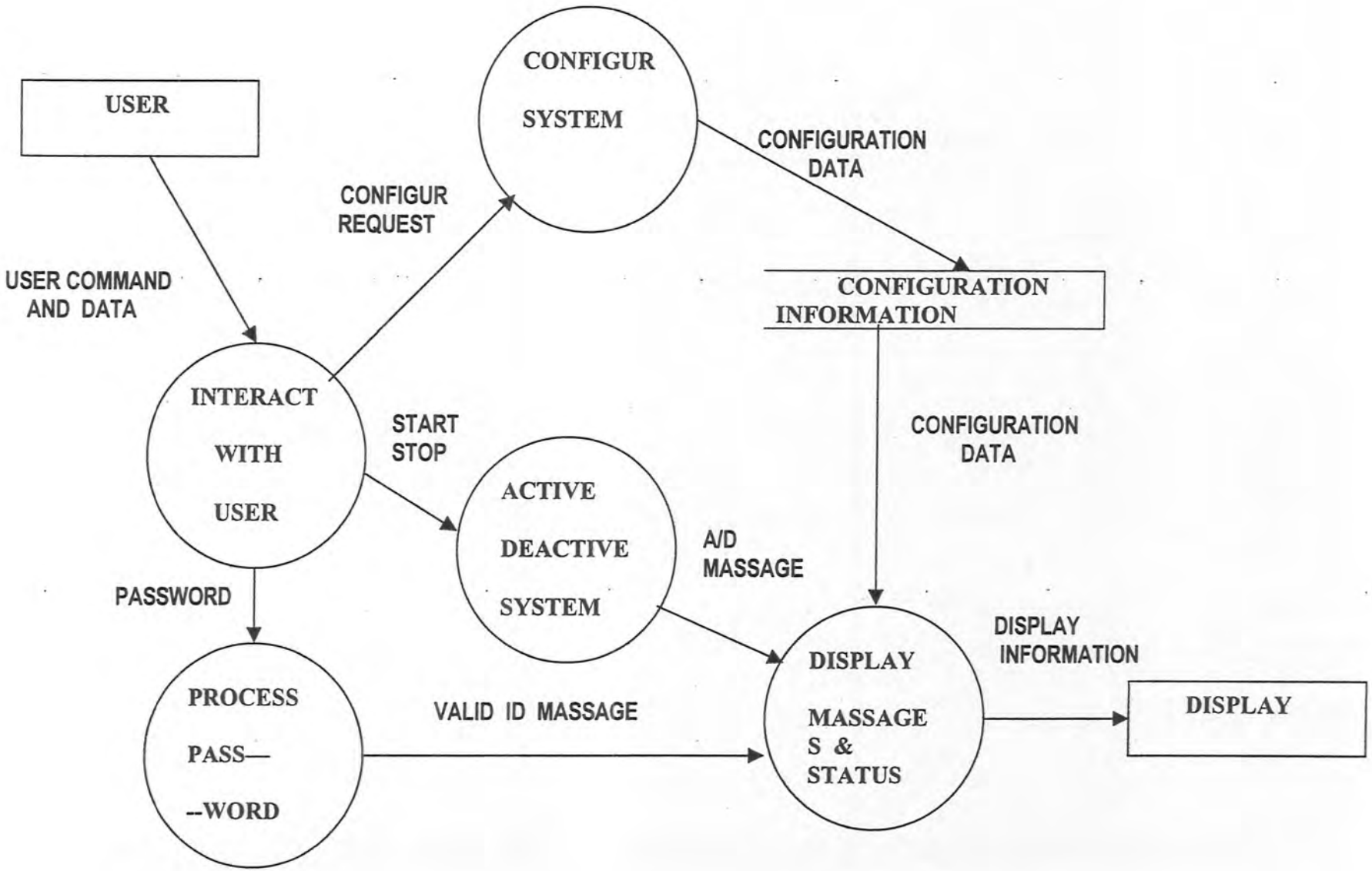


APPENDIX-D
D.F.D.

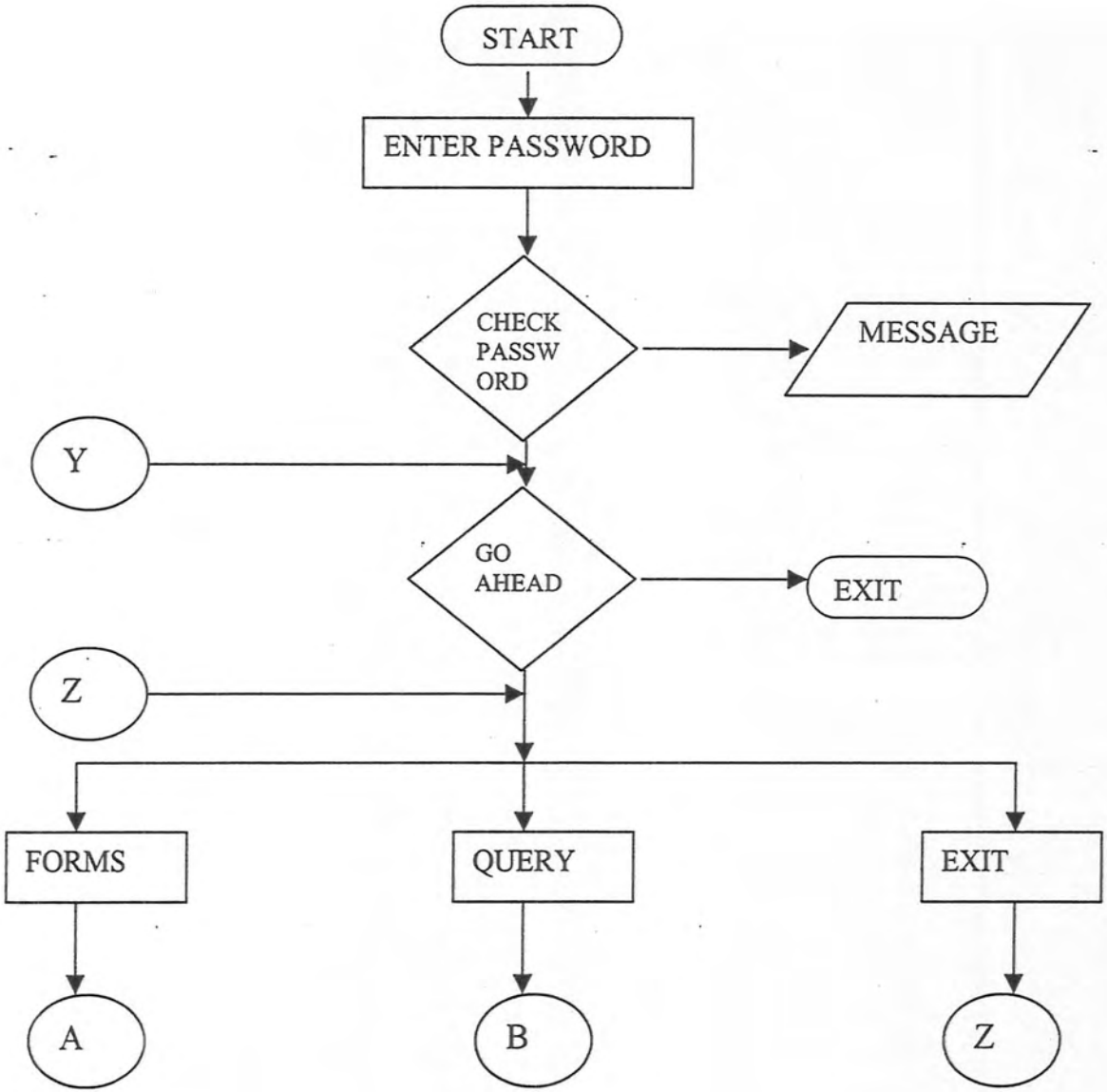
DATA FLOW DIAGRAM

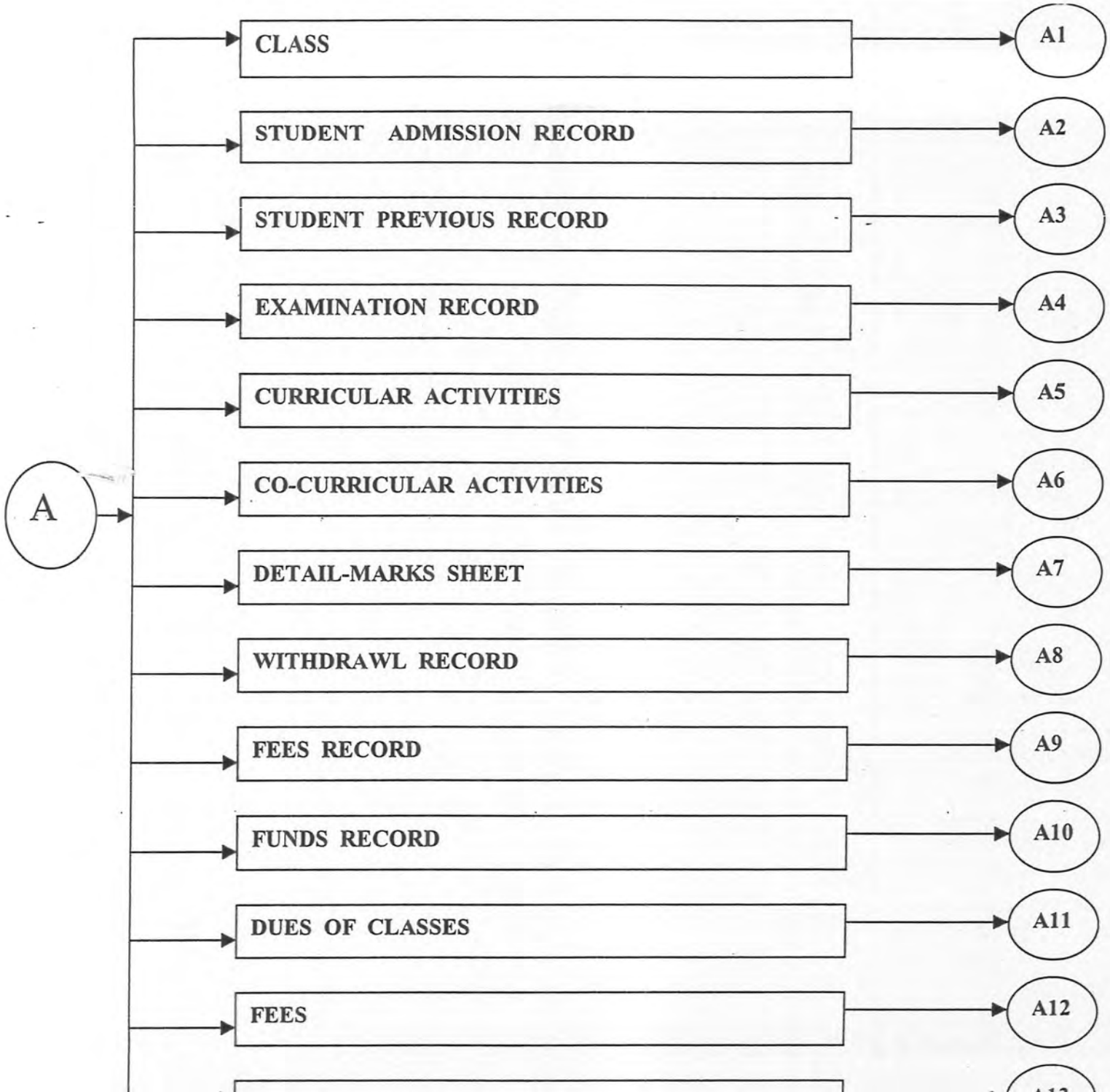
0 LEVEL DFD FOR STUDENT INFORMATION

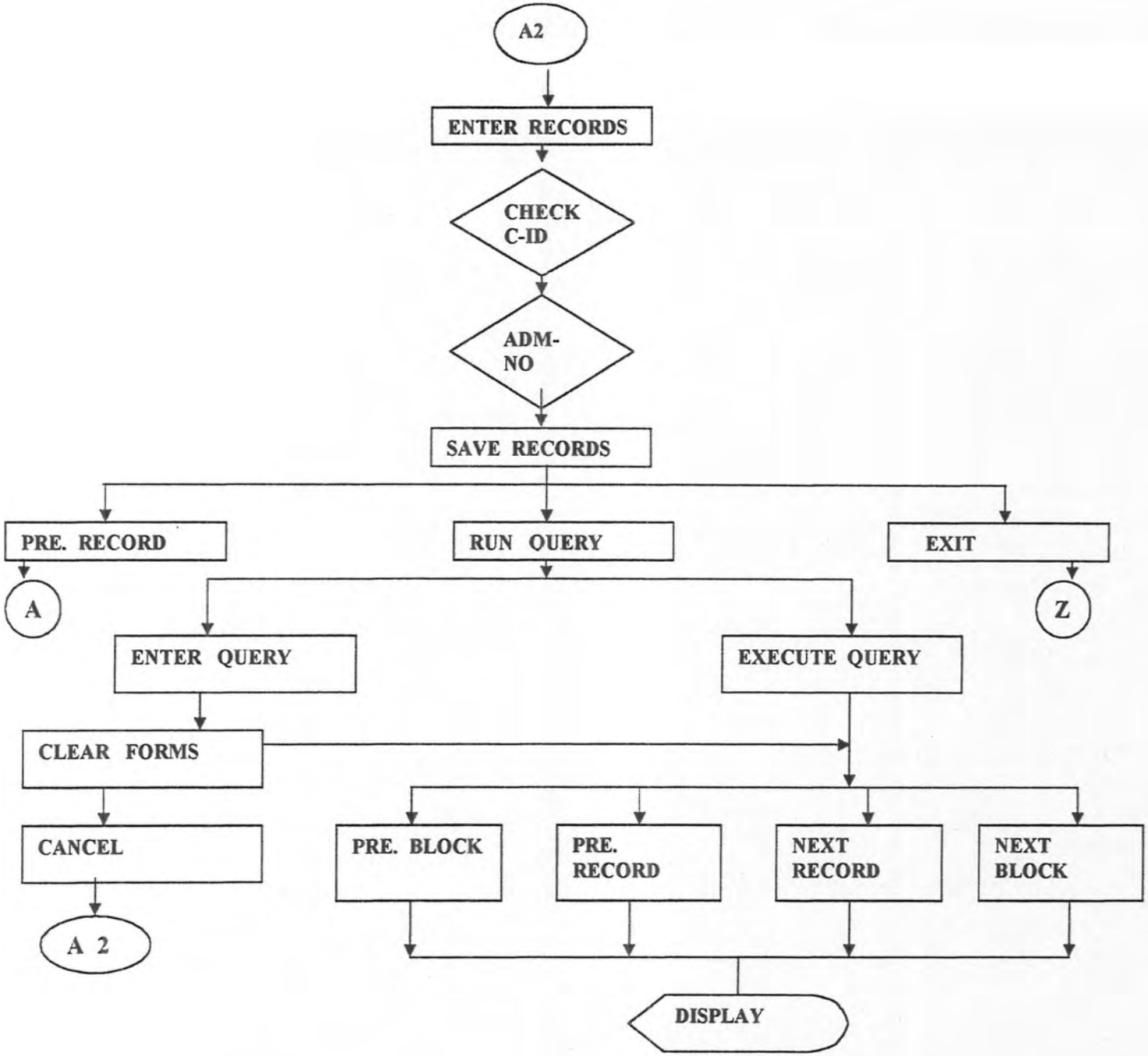
LEVEL 1 DFD FOR STUDENT INFORMATION

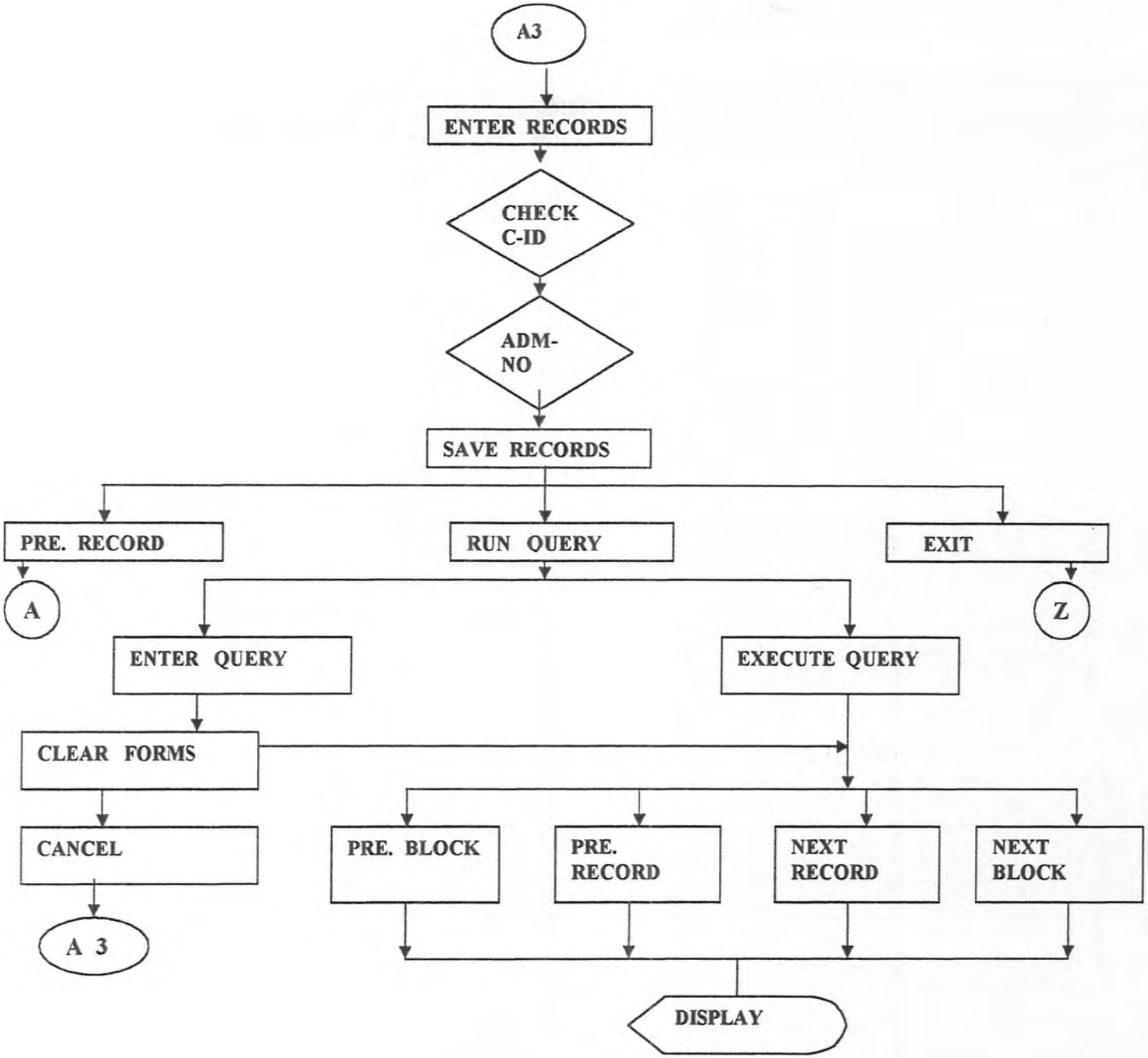


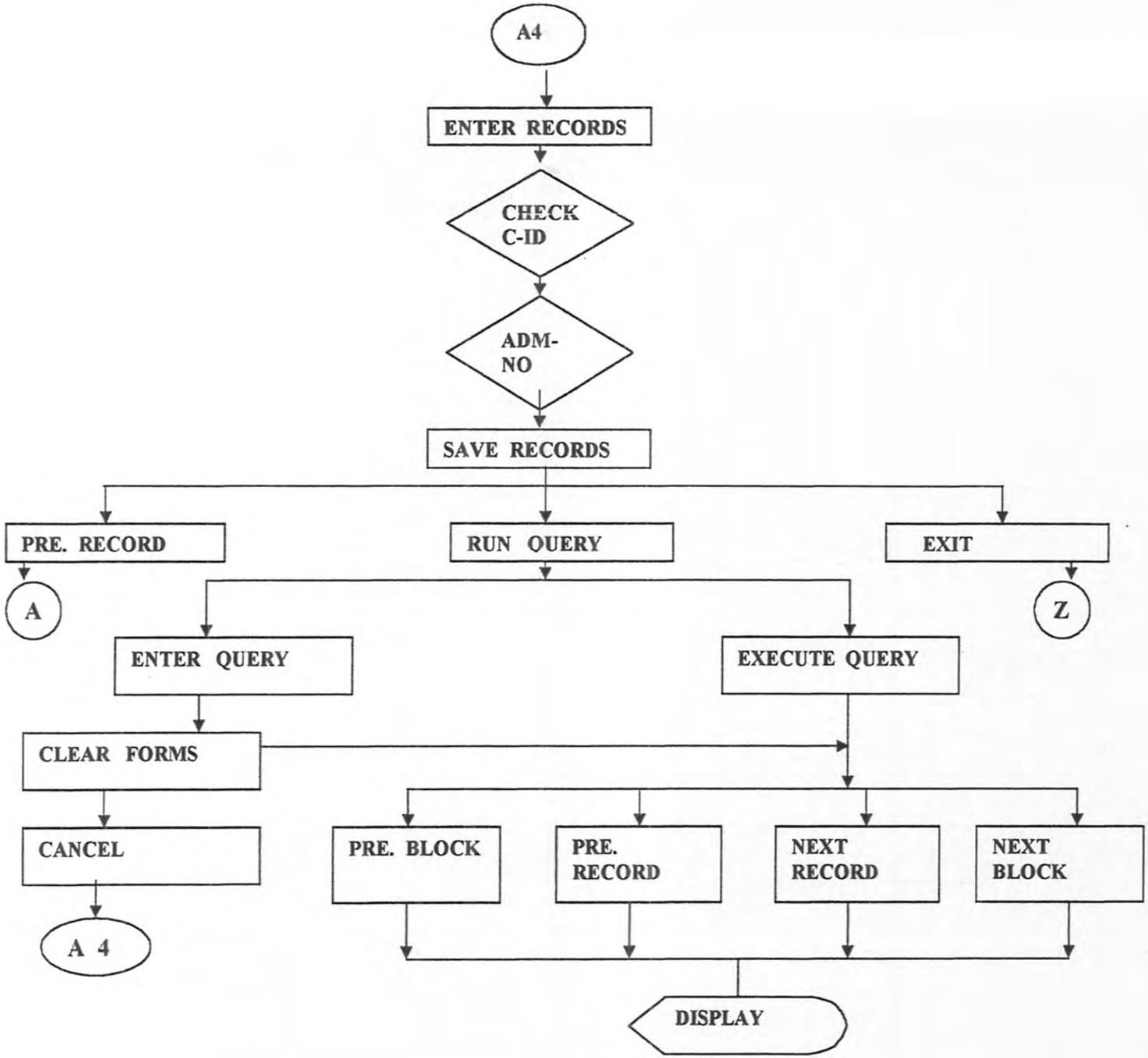
APPENDIX-E
SYSTEM FLOW CHART

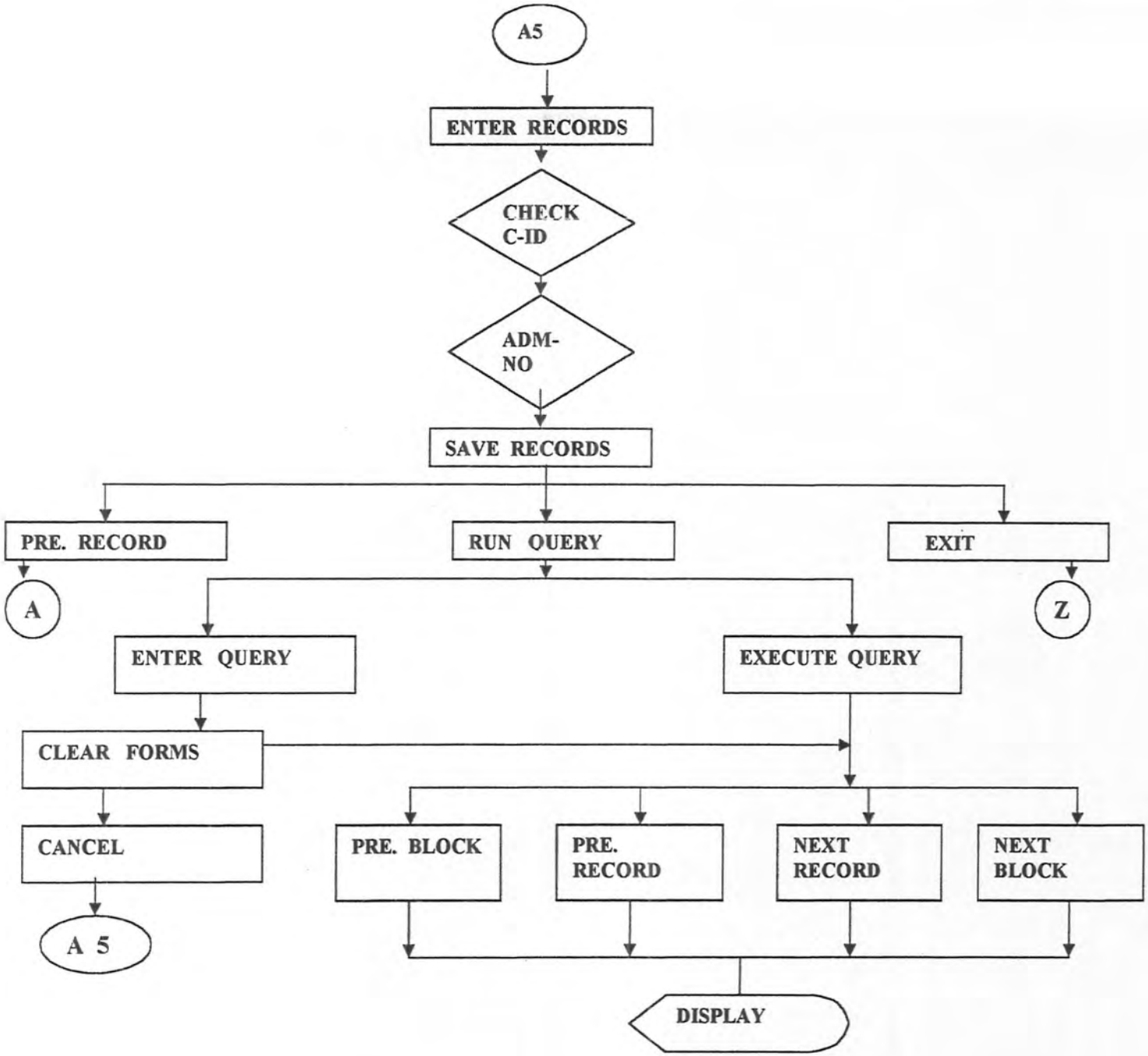

START
ENTER PASSWORD
CHECK PASSW ORD
MESSAGE
Y
GO AHEAD
EXIT
Z
FORMS
QUERY
EXIT
A
B
Z

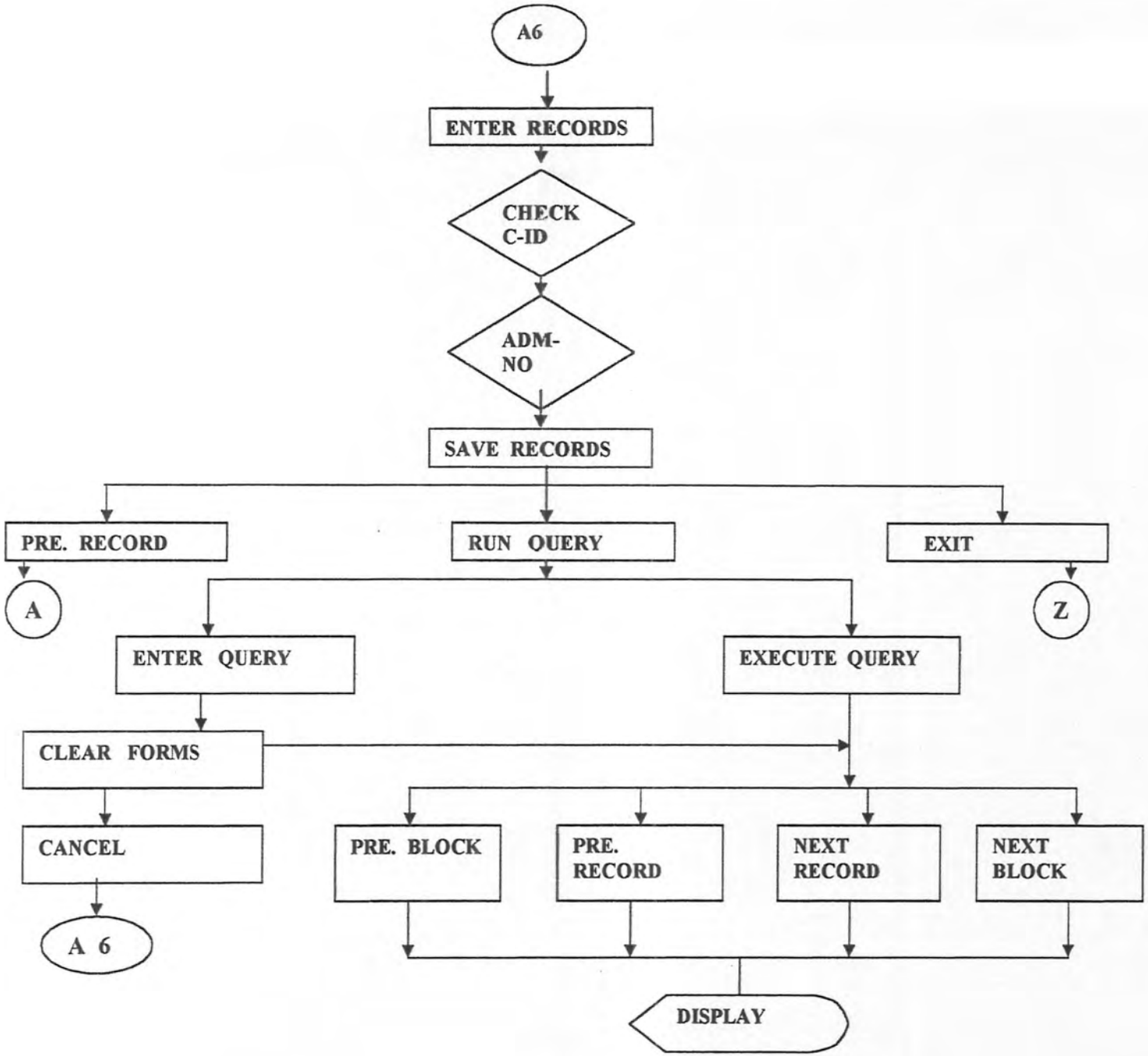

A
CLASS
A1
STUDENT ADMISSION RECORD
A2
STUDENT PREVIOUS RECORD
A3
EXAMINATION RECORD
A4
CURRICULAR ACTIVITIES
A5
CO-CURRICULAR ACTIVITIES
A6
DETAIL-MARKS SHEET
A7
WITHDRAWL RECORD
A8
FEES RECORD
A9
FUNDS RECORD
A10
DUES OF CLASSES
A11
FEES
A12

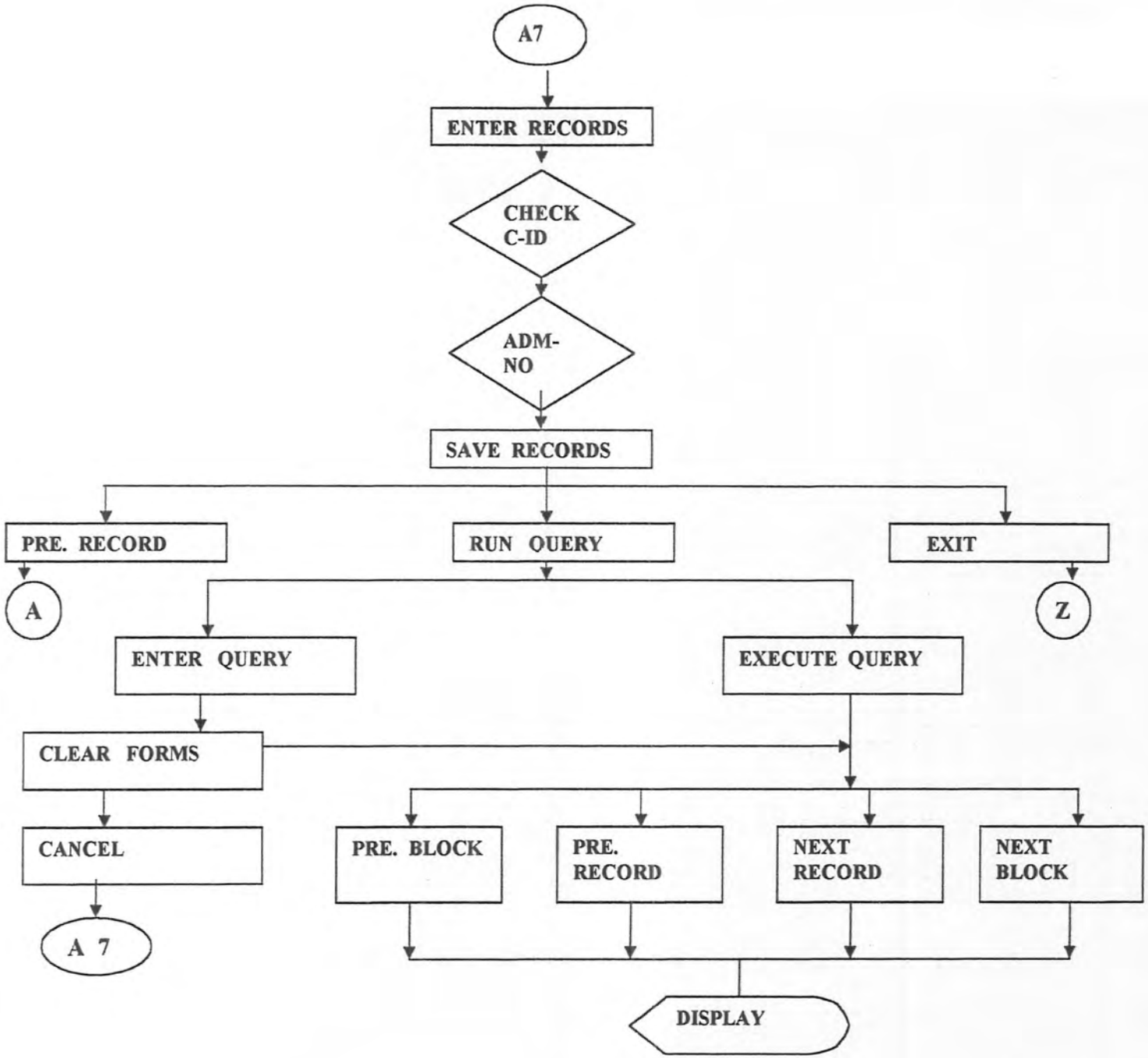

A2
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 2
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY

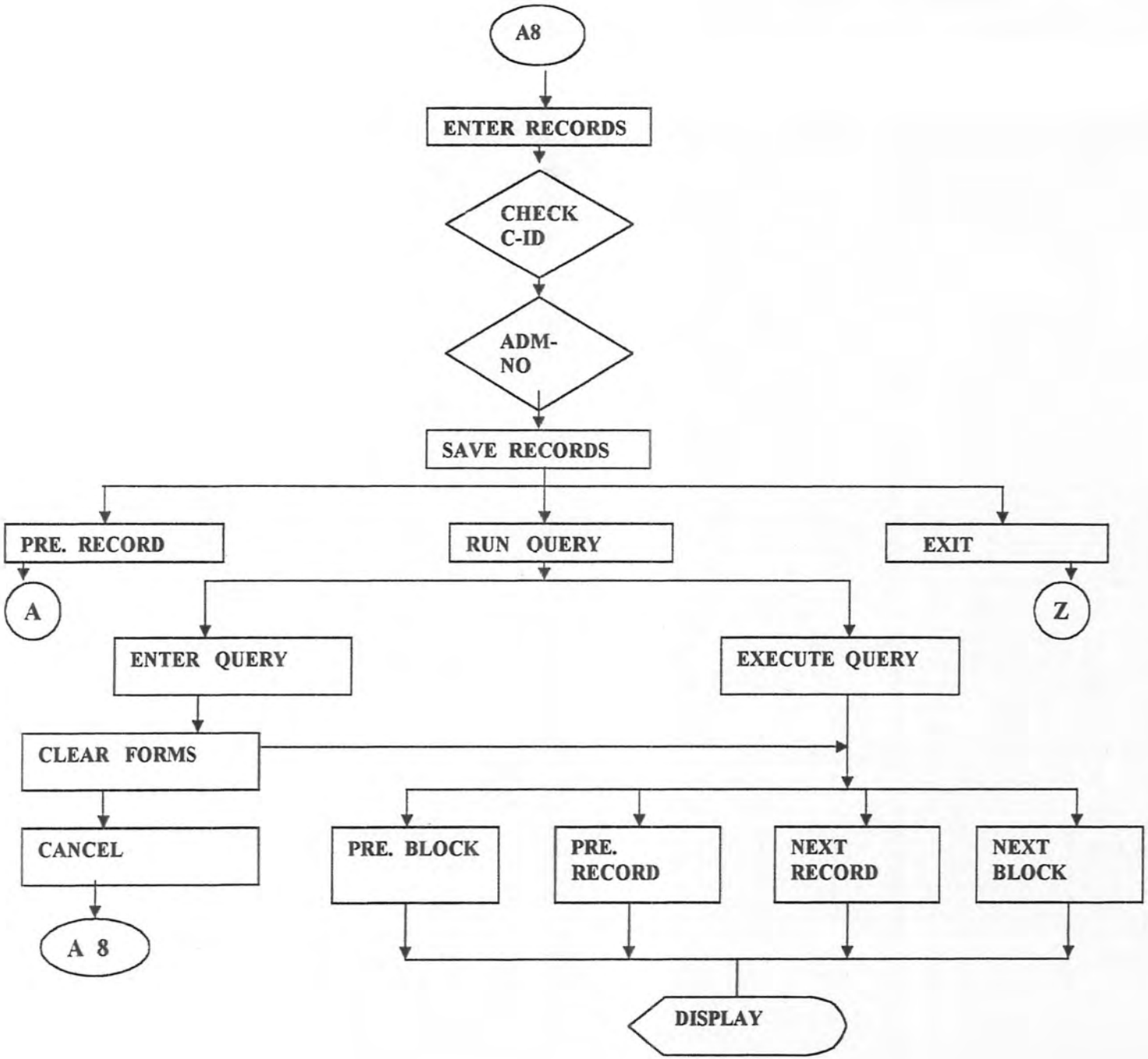

A3
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 3
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY

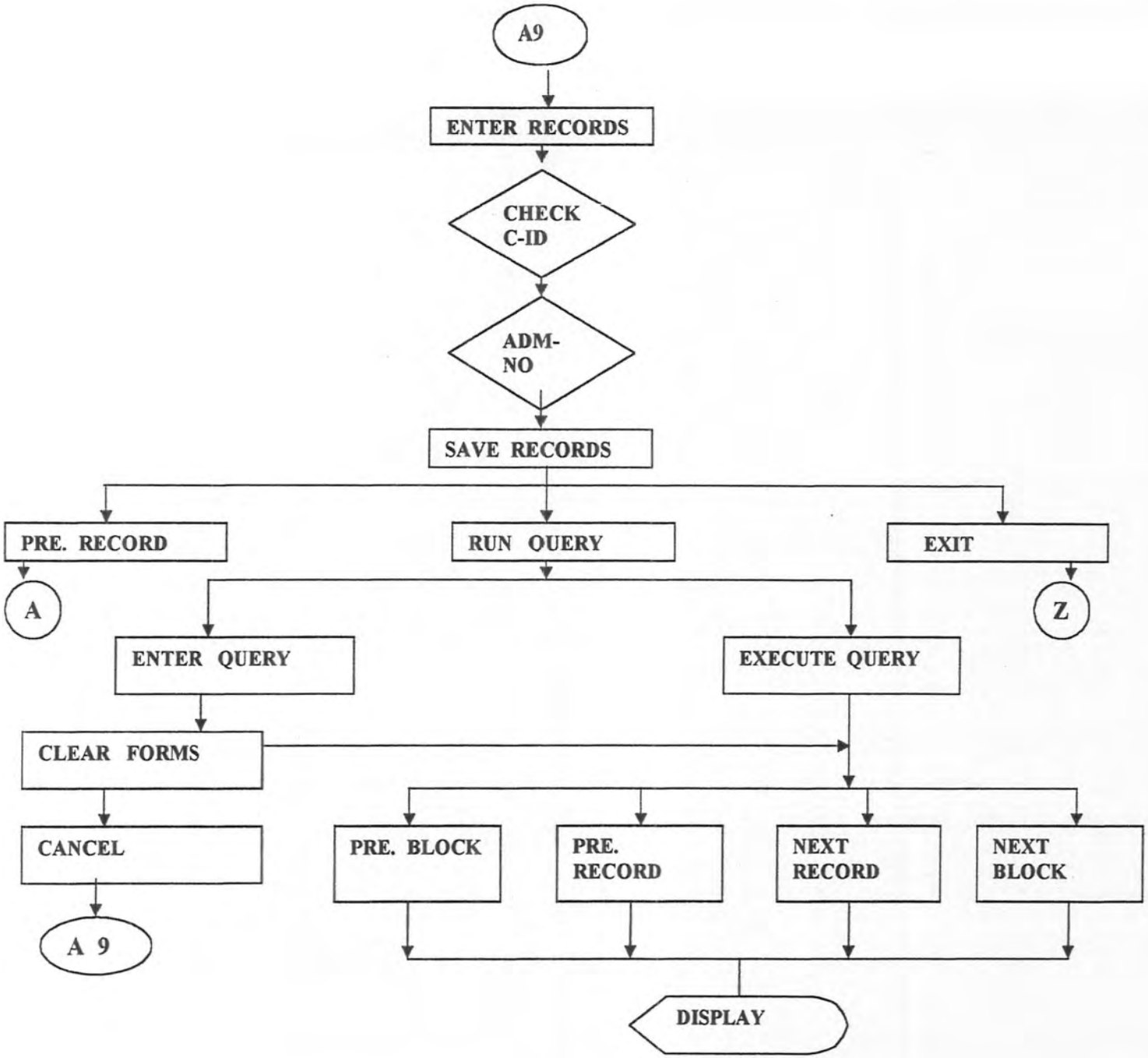

A4
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 4
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY

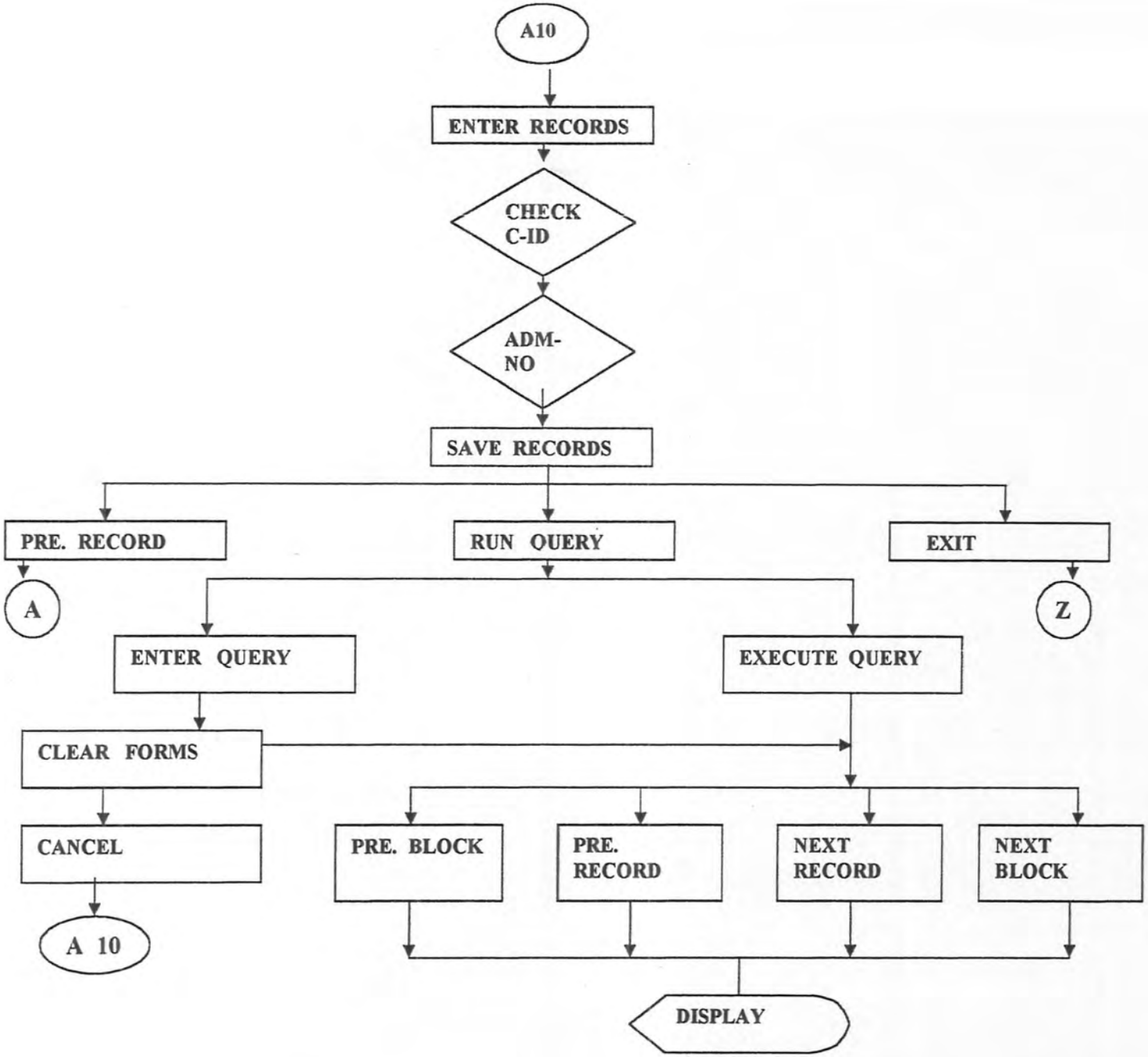

A5
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 5
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY

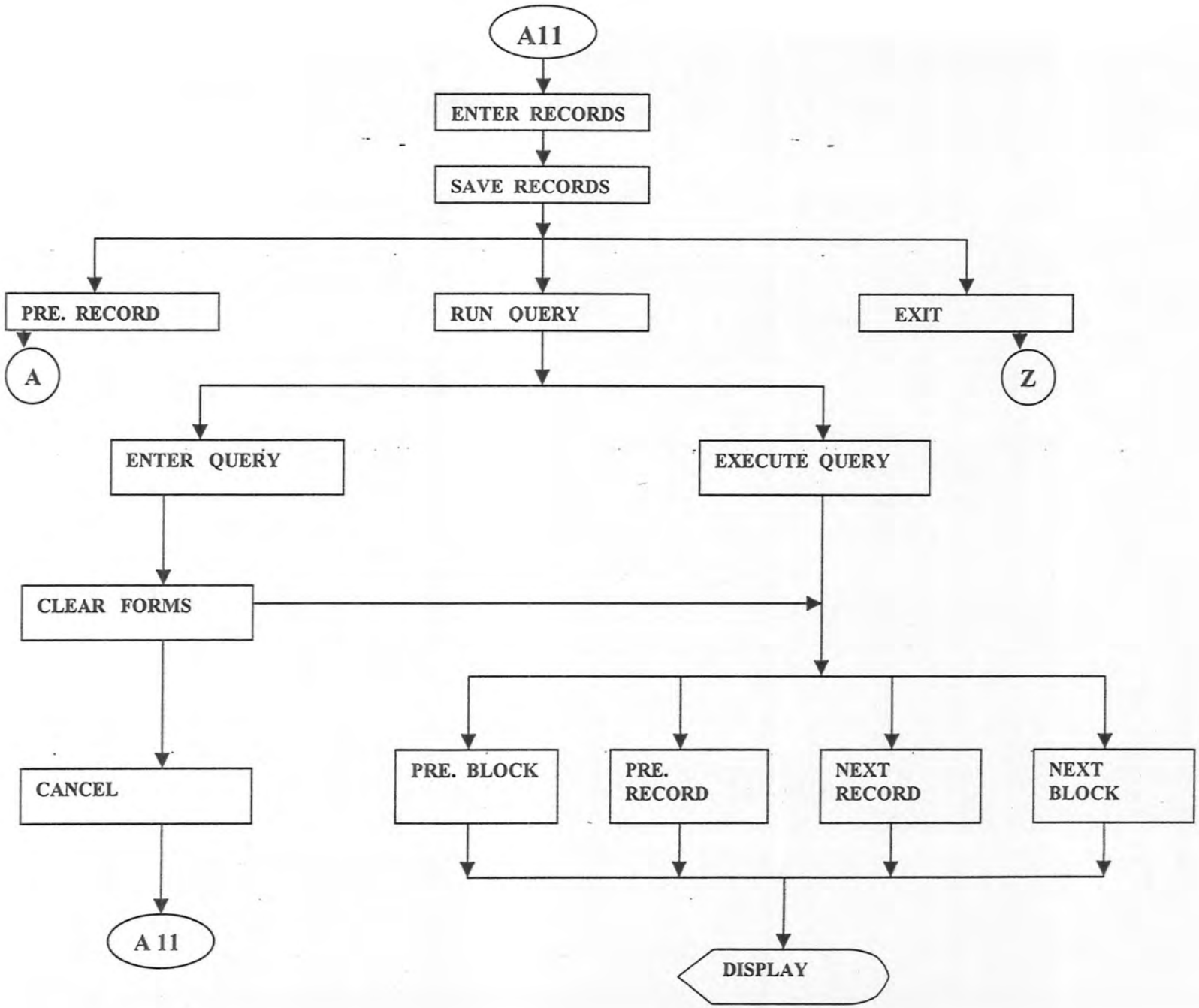

A6
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 6
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY

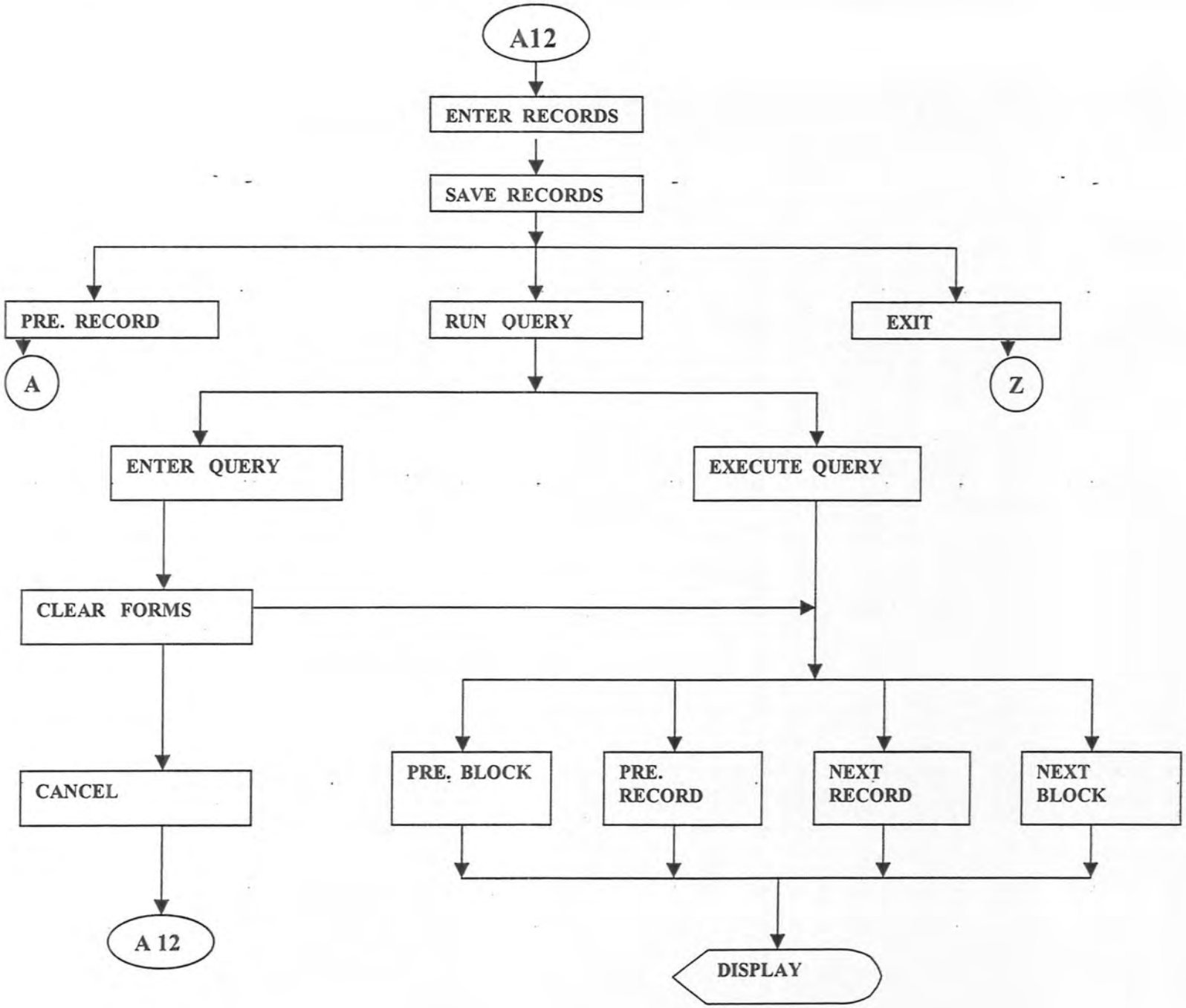

A7
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 7
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY


A8
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 8
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY


A9
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 9
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY


A10
ENTER RECORDS
CHECK C-ID
ADM-NO
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 10
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY


A11
ENTER RECORDS
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 11
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY


A12
ENTER RECORDS
SAVE RECORDS
PRE. RECORD
RUN QUERY
EXIT
A
Z
ENTER QUERY
EXECUTE QUERY
CLEAR FORMS
CANCEL
A 12
PRE. BLOCK
PRE. RECORD
NEXT RECORD
NEXT BLOCK
DISPLAY