

PROJECT REPORT

(Submitted for the Degree of B.com Honours. In Accounting & Finance under the University of Calcutta)

TITLE OF THE PROJECT:

DATABASE MANAGEMENT SYSTEM

Submitted by

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Year of Submission:

2023

STUDENT'S DECLARATION

I hereby declare that the Project Work with the title "DATABASE MANAGEMENT SYSTEM" submitted by me for the partial fulfilment of the degree of B.Com.Honours in Accounting & Finance under the University of Calcutta is my original work and has not been submitted earlier to any other University for the fulfilment of the requirement for any course of study.

I also declare that no chapter of this manuscript in whole or in part has been incorporated in this report from any earlier work done by others or by me.

Signature

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SUPERVISOR'S CERTIFICATE

This is to certify that Afsar Ahmad Khan, a student of B.Com Honours in Accounting & Finance of BANGABASI MORNING COLLEGE under the University of Calcutta has worked under my supervision and guidance for his Project Work and prepared a Project Report with the title – “DATABASE MANAGEMENT SYSTEM”, which he is submitting, is the genuine and original work to the best of my knowledge.

Signature

Name: Debasish Biswas, Dipika Das

College: Bangabasi Morning College

Place: KOLKATA

Date:

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INTRODUCTION

Data is the cornerstone of any modern software application, and databases are the most common way to store and manage used by applications.

A database management system (DBMS) is a software tool that enables users to manage a database easily. It allows users to access and interact with the underlying data in the database. These actions can range from simply querying data to defining database schemas that fundamentally affect the database structure.

Furthermore, DBMS allow users to interact with a database securely and concurrently without interfering each user and while maintaining data integrity.

Types of Database Management:

1. Relational database management systems (RDBMS):

Microsoft SQL, MYSQL, and Oracle Database are some popular DBMS under this type.

2. Document database management systems (DoDBMS):

MongoDB Azure cosmos DB are some prominent examples of DoDBMS.

3. Columnar database management systems (CDBMS):

Some databases that use columnar format are Apache Cassandra, Apache HBase, etc.

ADVANTAGES

Some of them are given as follows below:

1. **Better Data Transferring:** Database management creates a place where users have an advantage of more and better-managed data. Thus, making it possible for end-users to have a quick look and to respond fast to any changes made in their environment.
2. **Better Data Transferring:** The more accessible and usable the database, the more it is prone to security issues. As the number of users increases, the data sharing rate also increases thus increasing the risk of data security. It is widely used in the corporate world where companies invest money, time, and effort in large amounts to ensure data is secure and is used properly.
3. **Simple:** Database management system (DBMS) gives a simple and clear logical view of data. Many operations like insertion, deletion, or creation of files or data are easy to implement.
4. **Scalability:** A DBMS can easily handle large volumes of data and can scale up or down depending on the needs of the organization.
5. **Data sharing:** A DBMS provides a systematic approach to organizing data in a structured way, which makes it easier to retrieve and manage data efficiency.

DISADVANTAGES

Some of them are given as follows below:

1. **More costly**: Creating and managing a database is quite costly. High-cost software and hardware is required for the database. Also highly trained staff is required to handle the database and it also needs continuous maintenance. All of these ends up making a database quite a costly venture.
2. **High complexity**: A Database Management System is quite complex as it involves creating, modifying and editing a database. Consequently, the people who handle a database or work with it need to be quite skilled or valuable data can be lost.
3. **Dependence on technology**: Organizations may become dependent on their DBMS, making it difficult to switch to a different system if needed.
4. **Performance issues**: A database grow, queries can become slow, and the system may need help to handle large amounts of data.
5. **Data integration**: Integrating data from different sources can be complex and time-consuming. As data integration is a complex process, there is always a high risk of errors occurring during the process. Organizations must invest huge resources and time in cleaning and normalizing the data to address data integration issues.

Create MS Access Database Software to Prepare Salary in Your Company

I'll give you the brief instruction to create a payroll system using MS Access to generate monthly salaries & print salary slips easily with this. You can print pay sheets for individual employers and salary details also. No need to install special software, no need special skill but you need MS Access in your computer. This way you can keep each month salary details records under database and can edit or review later.

Instructions



Step 1: Create Main Basic Table

- Open Ms Access
- Go to main menu
- create table as mentioned below with picture (Fig.1&2)
- Add your details which you pay to your staffs every month.

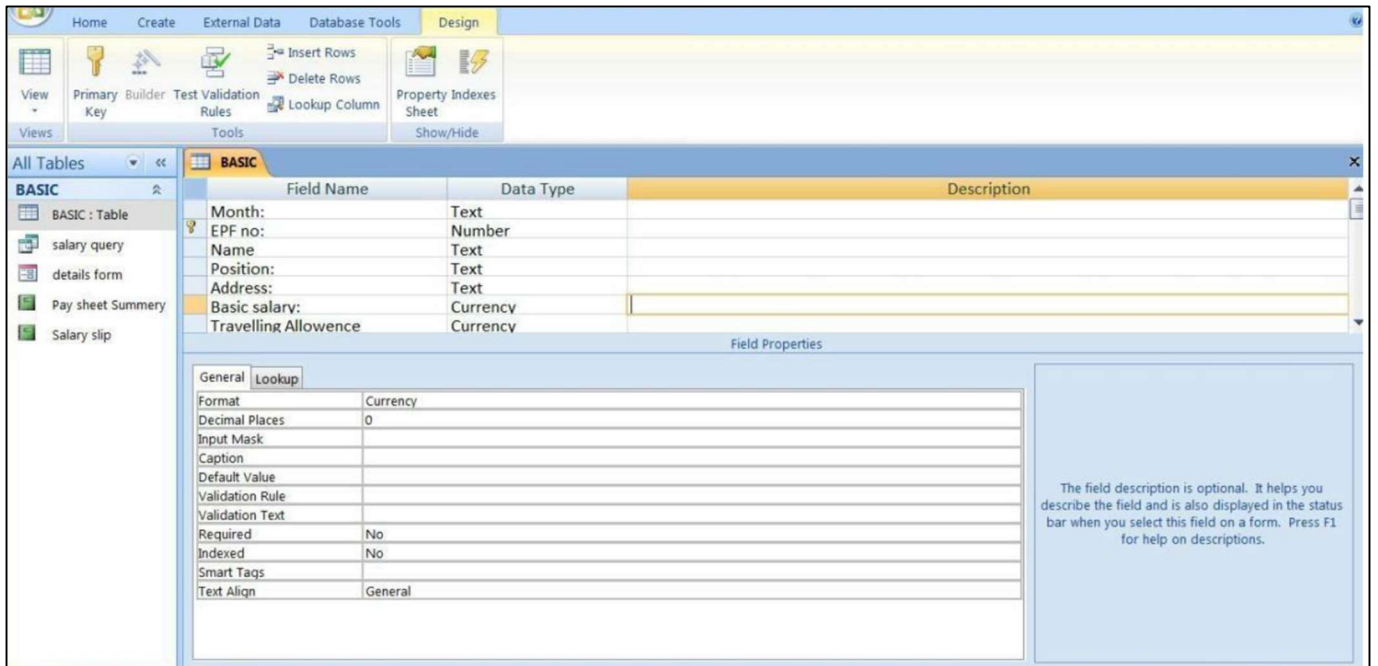


Fig.1

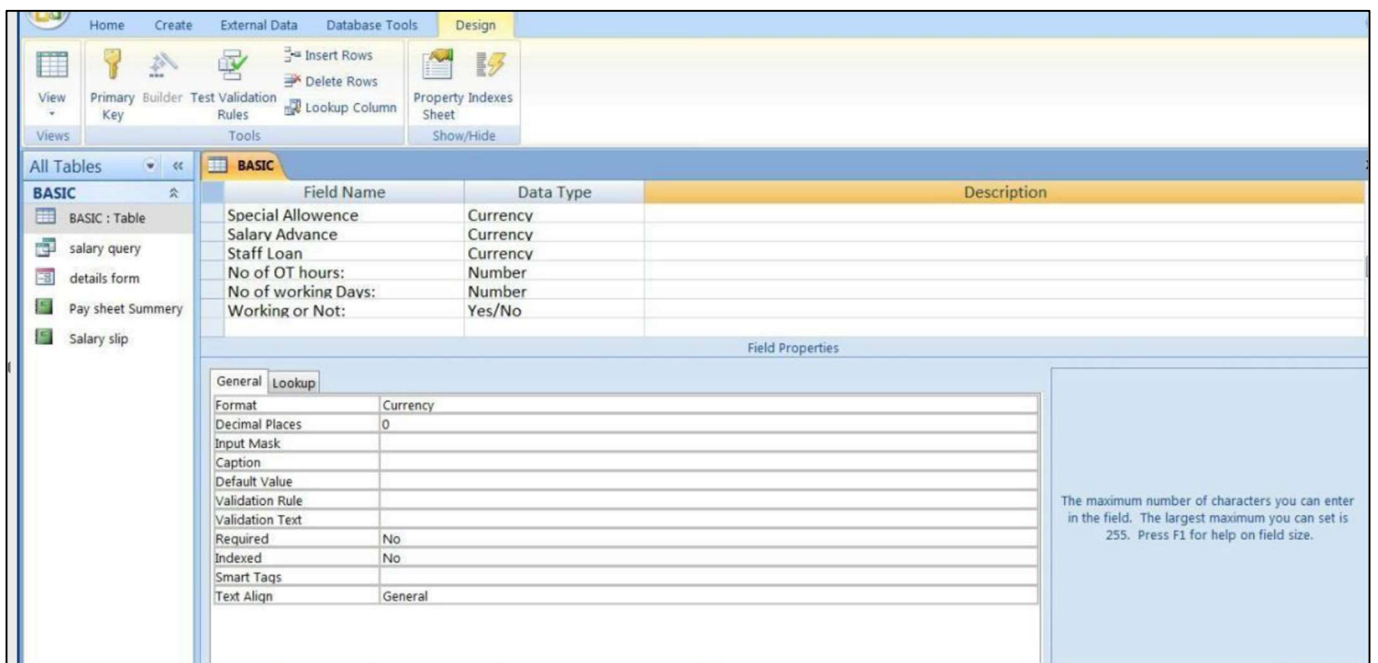


Fig.2



Step 2: Create Query for Basic Main Table

➤ Create as given below (Fig.3)

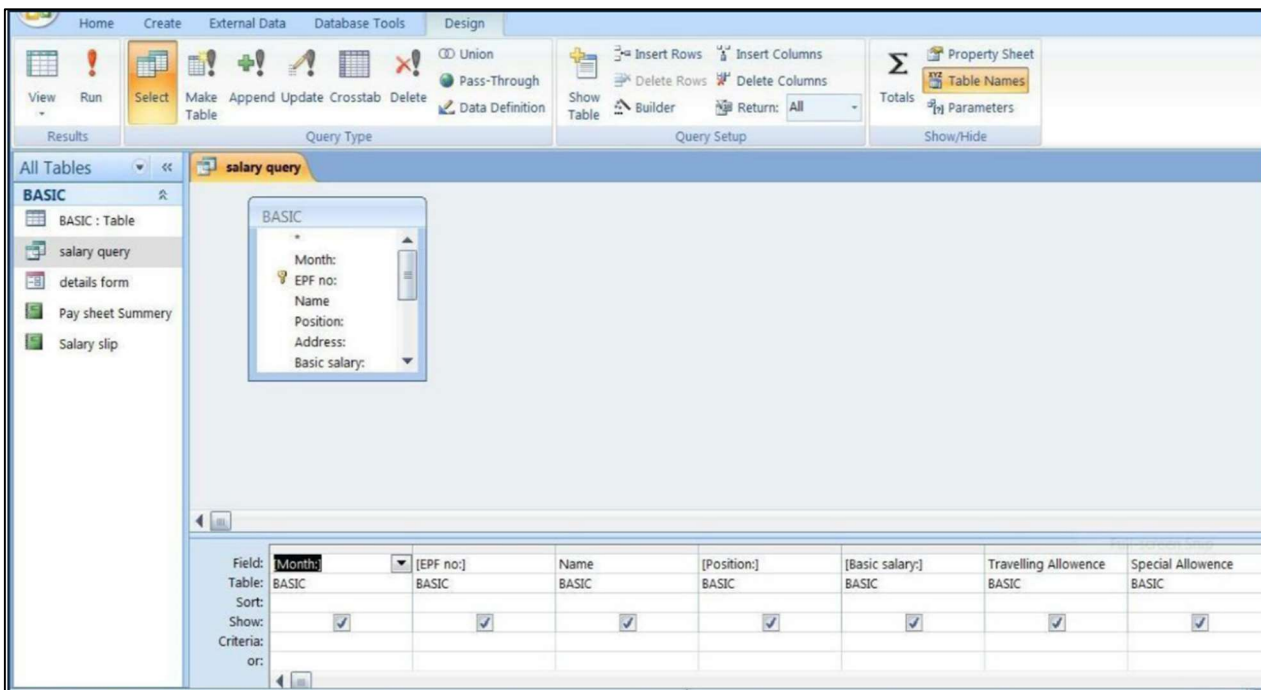


Fig.3



Step 3: Create Pay Sheet Details

- for pay sheet create a report based on monthly transaction.
- insert formula for auto calculate OT/ No pay/ net salary.
- Refer the image as given below.
(Fig.4)

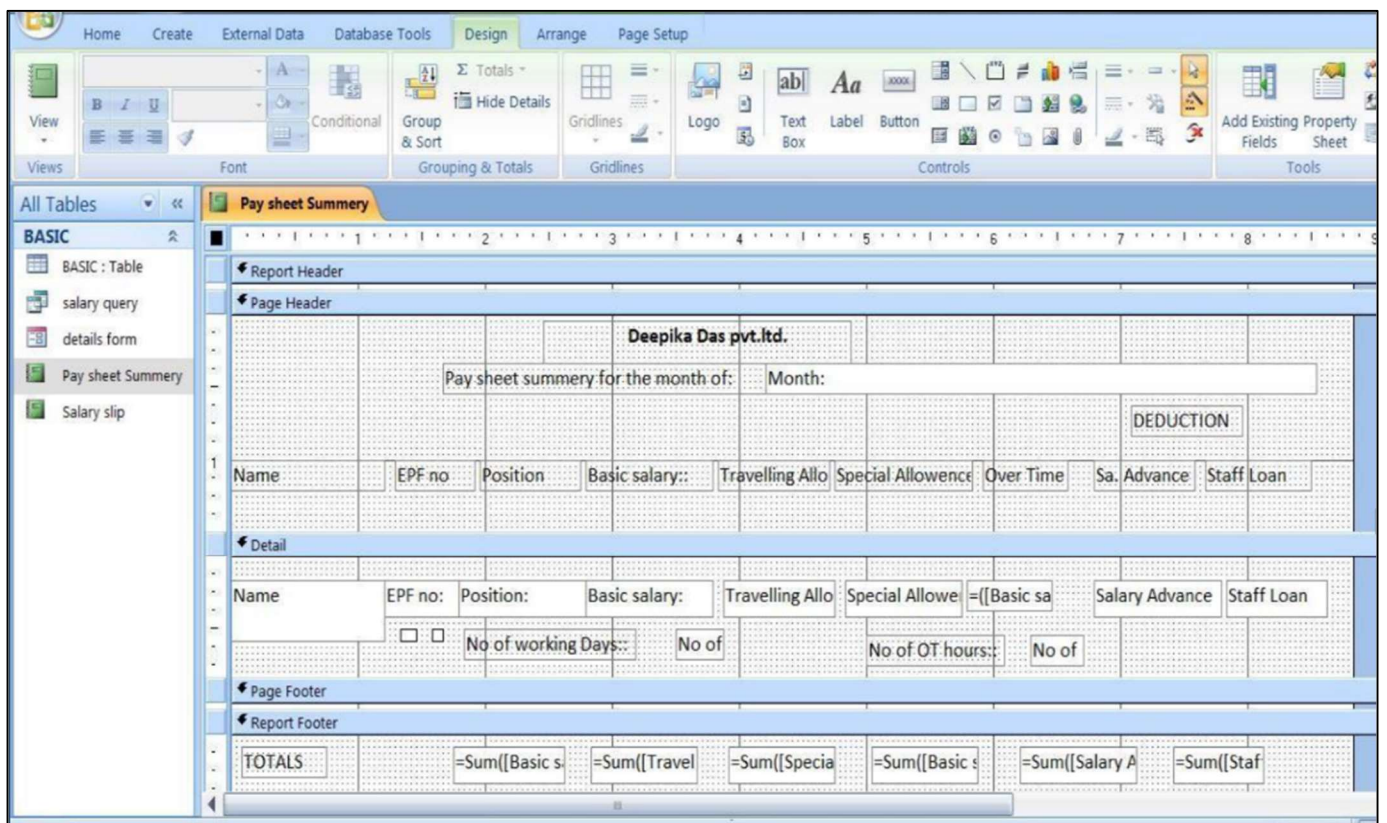


Fig.4



Step 4: Create a Salary Slip

- Create a salary slip as below.
- Put all necessary details in the staff salary slip.
- Refer the images as given below.

(Fig.5&6)

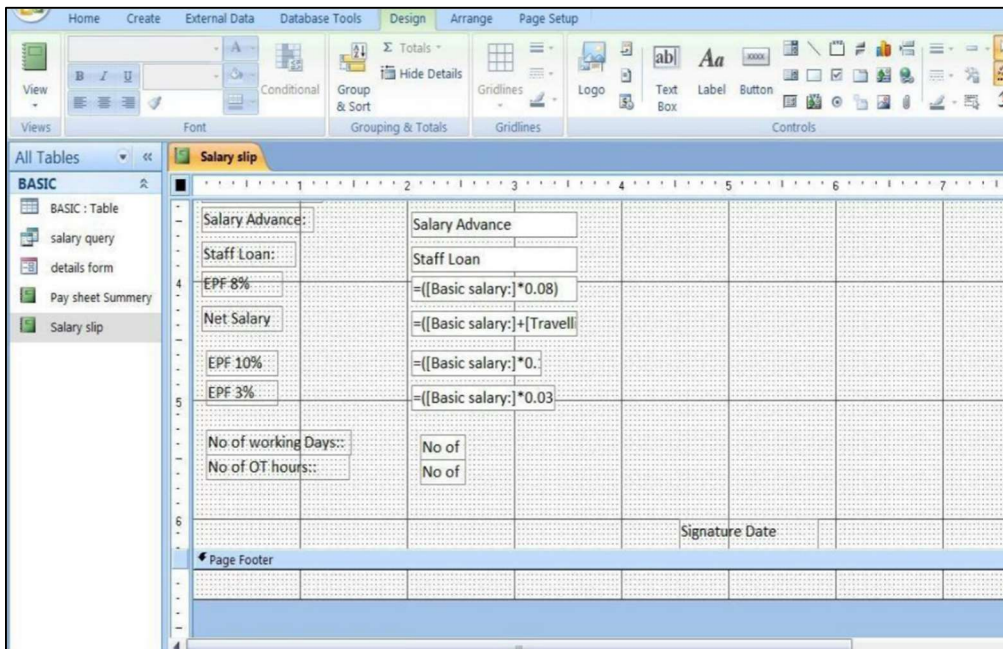


Fig.5

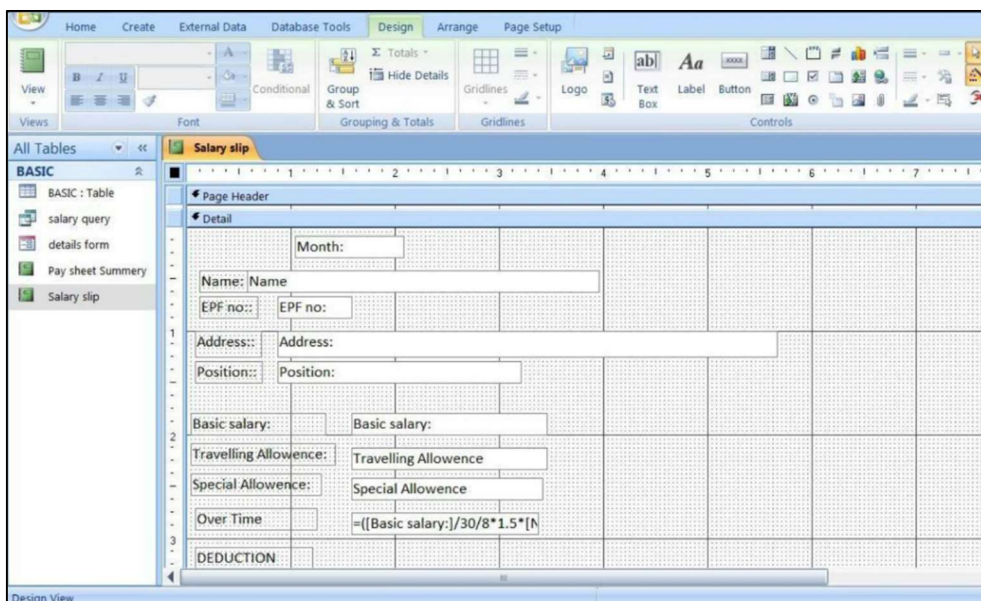


Fig.6



Step 5: Create a Form to Enter Data

- To enter data in the program, create a Form.
- Create a Form to enter data, based on the table.
- Refer the image as given below.
(Fig.7)

The screenshot displays the Microsoft Access interface in Design View for a form named 'details form'. The ribbon includes 'Home', 'Create', 'External Data', 'Database Tools', 'Design', and 'Arrange'. The 'Design' ribbon is active, showing options for 'Title', 'Page Numbers', 'Date and Time', 'Text Box', 'Label', 'Button', 'Use Control Wizards', and 'ActiveX Controls'. The 'Tools' group includes 'Add Existing Property Fields' and 'Sheet'. The 'All Tables' pane on the left shows a list of tables: 'BASIC : Table', 'salary query', 'details form', 'Pay sheet Summary', and 'Salary slip'. The form design grid shows a 'Form Header' section with a title 'Deepika Pvt. Ltd. - Enter Basic Details' and a 'Detail' section with various data entry fields. The fields are arranged in a grid-like structure with labels and input boxes. The 'Detail' section includes fields for 'Month:', 'EPF no:', 'Position:', 'Basic salary:', 'Travelling Allowance:', 'Special Allowance:', 'Salary Advance:', 'Staff Loan:', and 'Working or Resign' (with a checked checkbox). The 'Form Header' section includes a logo and the title text. The 'Detail' section also includes fields for 'Name:', 'Address:', 'No of OT hours:', and 'No of working Days:'. A 'Full-screen Snip' button is visible in the bottom right corner of the form design area.

Fig.7



Step 6: Enter Staff Details

- Now the program is finish.
- Enter staff details.
- Refer image as given below.
(Fig.8)

The screenshot shows the Microsoft Access interface with a form titled "Deepika Pvt. Ltd. - Enter Basic Details". The form is displayed in a "Form View" and contains the following fields and controls:

- Month::
- Name:
- EPF no::
- Address::
- Position:
- Basic salary::
- Travelling Allowance:
- Special Allowance:
- Salary Advance:
- Staff Loan:
- No of OT hours::
- No of working Days::
- Working or Resign
- If resign tick this

Fig.8

Create MS Access to Create a Database

➤ In this assignment, we are required to create a database – dbStudentCourse. In this database, we should do the following work:

- ✚ Create three table: tblStudent, tblcourse, and tblstudentcourse,
- ✚ Build the relationship between tblStudent and tblCourse,
- ✚ Create a query, and
- ✚ Generate a report based on the query results.

➤ Database Design

✚ This database design contains three tables: tblStudent, tblCourse, and tblStudentCourse.

tblStudent (studentID, Sname, GPA)

✚ tblCourse (CourseID, CourseTitle, CreditHour, Description)

✚ tblStudentCourse (studentID, CourseID, DateTaken, Status)

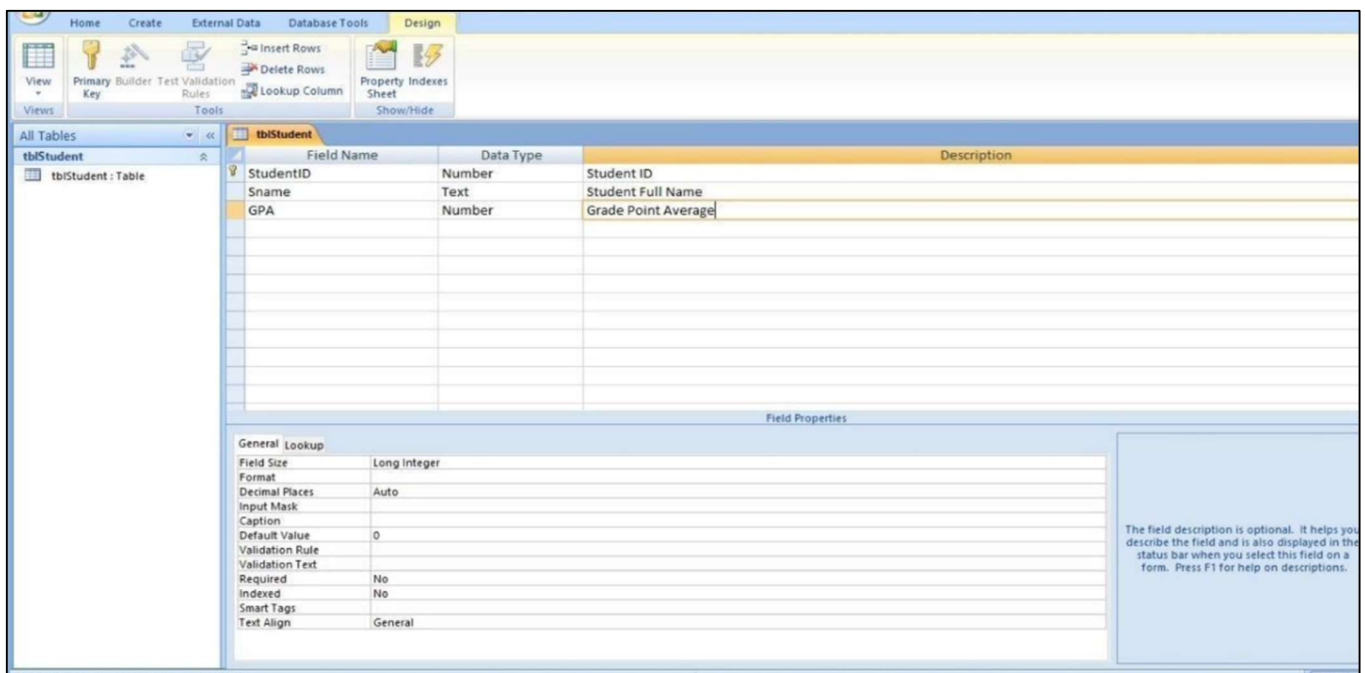


Fig.1 (The Frame of tblStudent)

- ✚ Open Microsoft Access & click “Blank Database”. We’ll name the database as “dbStudent.accdb” and save it into a location. Click “Create”.
- ✚ In the database, we can see “Table1”, which is the default name created by Access. Right click “Table1” on the top of the datasheet view and choose “Design View”. In the pop up window, rename the table as “tblStudent”.
- ✚ Input the field name and choose the data type as shown in Fig.1 above.
- ✚ Set the first field “StudentID” as the “primary key” by clicking right at the very beginning of the first row. Now, the design of the table “tblStudent” is completed.
- ✚ To create other two tables “tblCourse” and “tblStudentCourse”, go to the top menu and click.
- ✚ “create” and then “Table”, we can see a new table named “Table1”. Repeat the procedures of (b) and input the field names and data types as indicated in Fig.2&3.
- ✚ Now save the work by closing all Table item windows.
- ✚ Input the data as indicated in Fig.4a,4b,4c

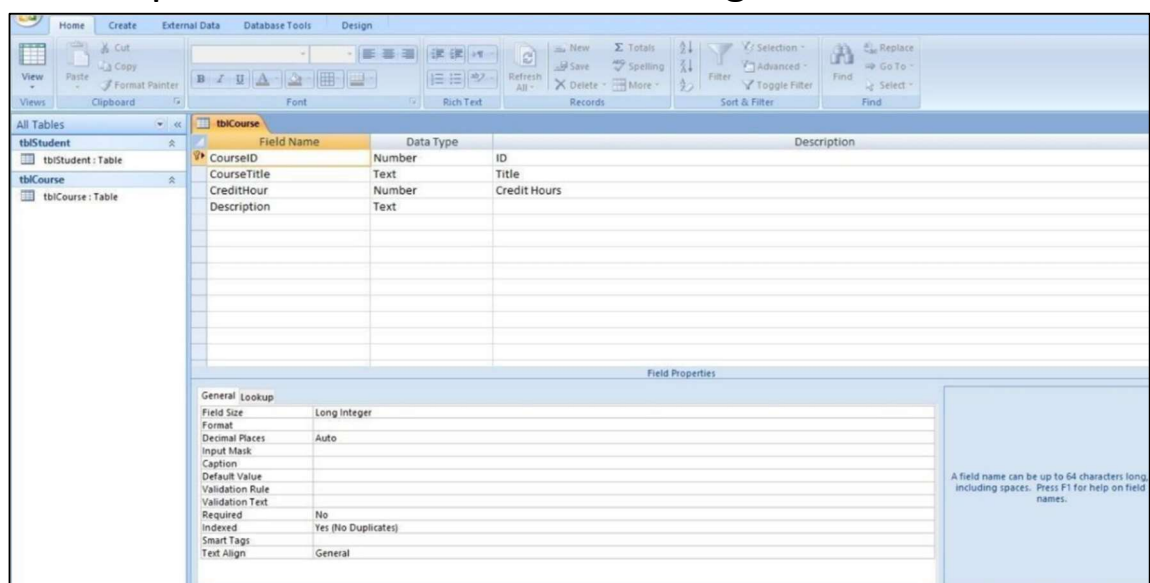


Fig.2 (The Frame of tblCourse)

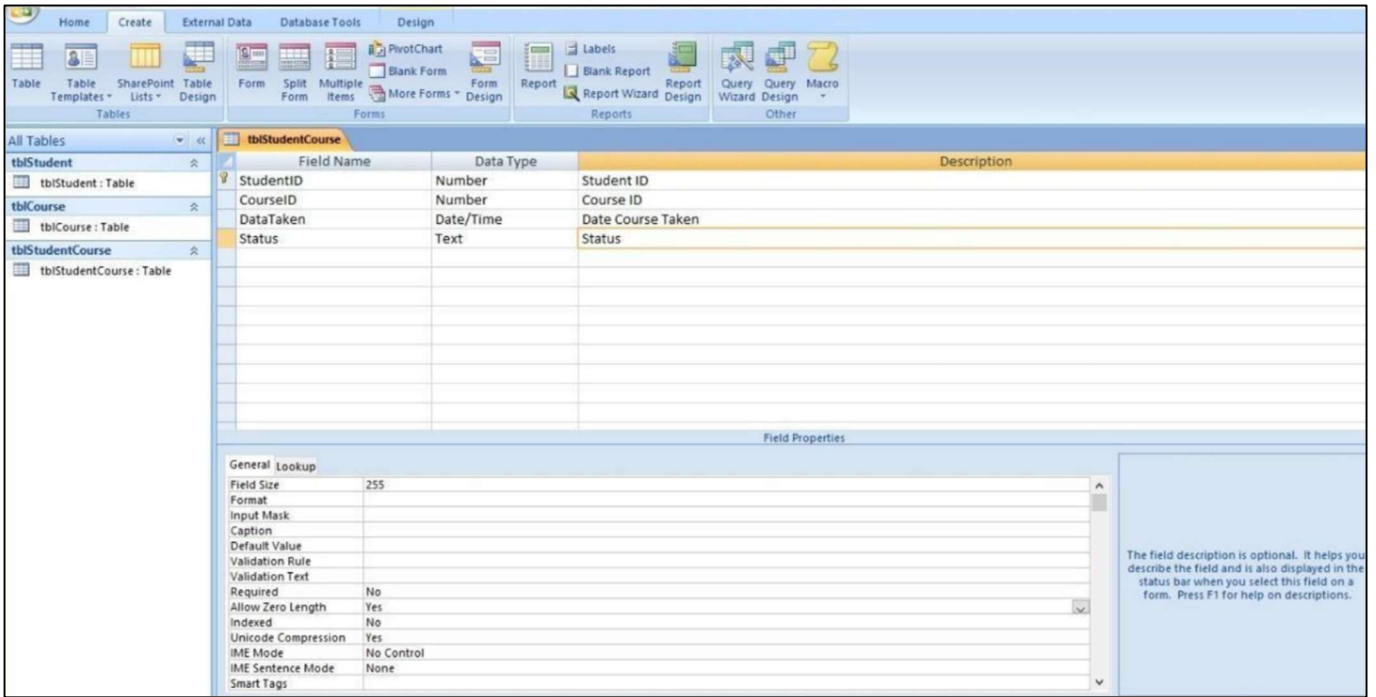


Fig.3 (The Frame of tblStudentCourse)

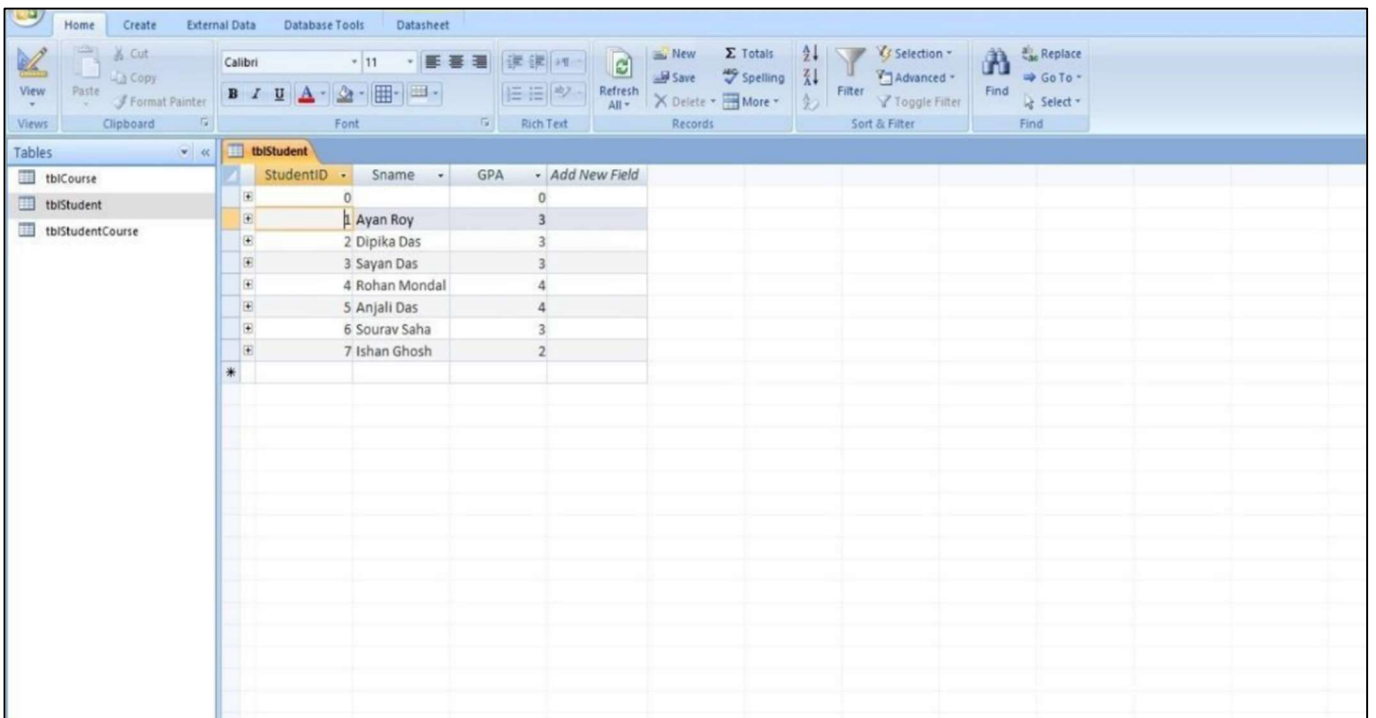


Fig.4(a)

CourseID	CourseTitle	CreditHour	Description
0		0	
1	Havesting	3	Forest Operati
2	Computer App	4	Concept
3	Biometrics	5	DNA
4	Finger Printing	3	Forensics

Fig.4(b)

StudentID	CourseID	DataTaken	Status
0	0		
1	1	1/9/2013	C
1	2	6/30/2012	F
1	3	8/14/2001	W
2	1	1/9/2013	C
2	3	1/1/2001	C
4	2	8/14/2013	A
7	1	1/9/2013	B
7	2	8/14/2013	B

Fig.4(c)

➤ Now build relationship for student & course database

- ✚ Click Database Tools then click Relationships from the Tool Menu, a dialogue box will appear.
- ✚ Select all the tables & click the button “Add”. Simply drag CourseID from tblCourse to tblStudentCourse and StudentID from the tblStudent to tblStudentCourse.
- ✚ The relationships among the tables are built as shown in Fig.5

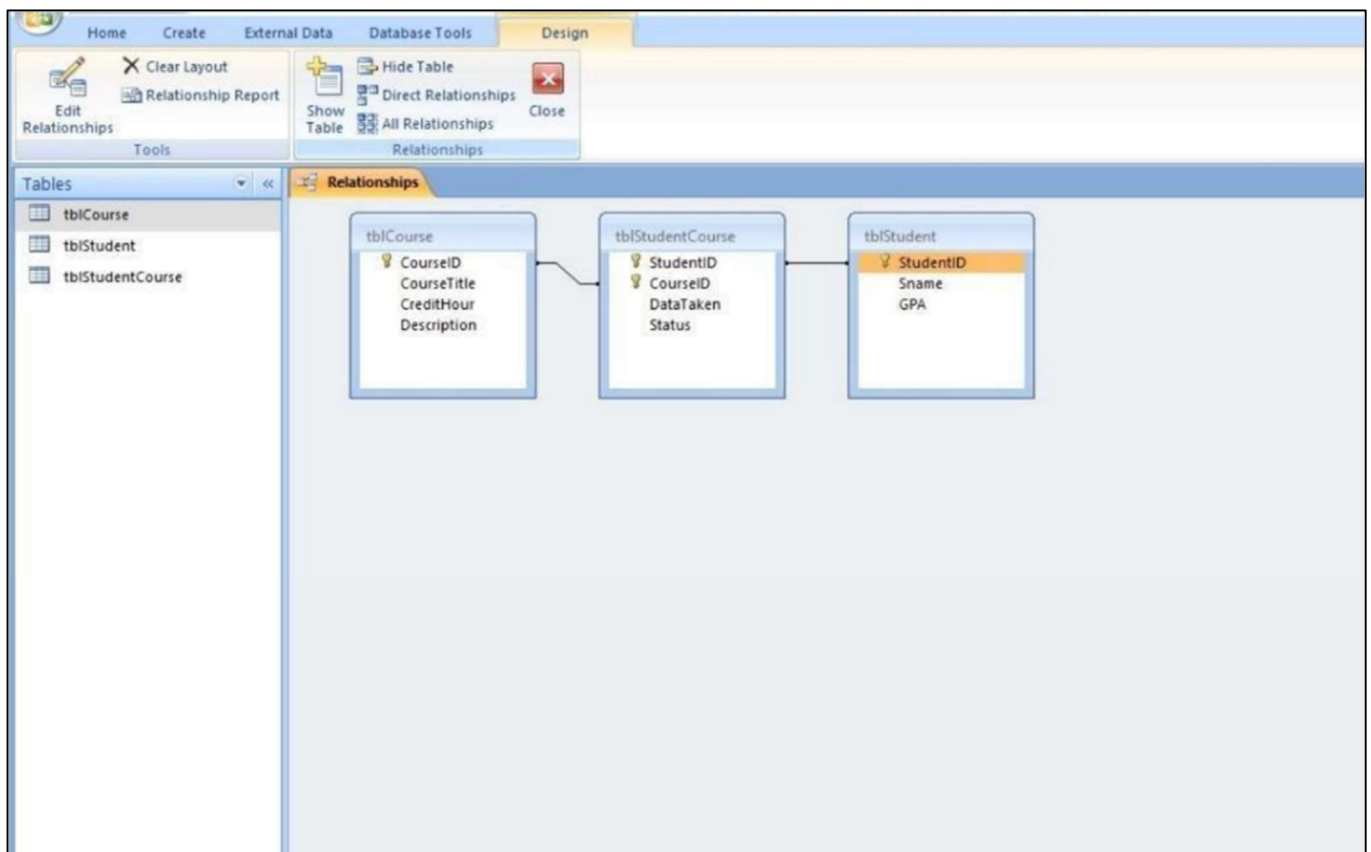


Fig.5

➤ Query Tables (Manually)

- Click “Create” menu, we will see several options to create a query. We will use “Query design”. Then add all the tables when the “Show Table” box is popped up.
- Then drag the data fields we need from tables to the query layout area where the tables are shown. Click “Run”, we will get a query table. Now we list StudentID, SName, GPA, and CourseTitle and name the query as “qryStudentCourse”.

➤ Create Reports

- Click “Create” on the menu & then “Report Wizards”
- Select the query that we just generated & select all the fields.
- Follow the instructions to create the report based on the query just created: rptStudentCourse.

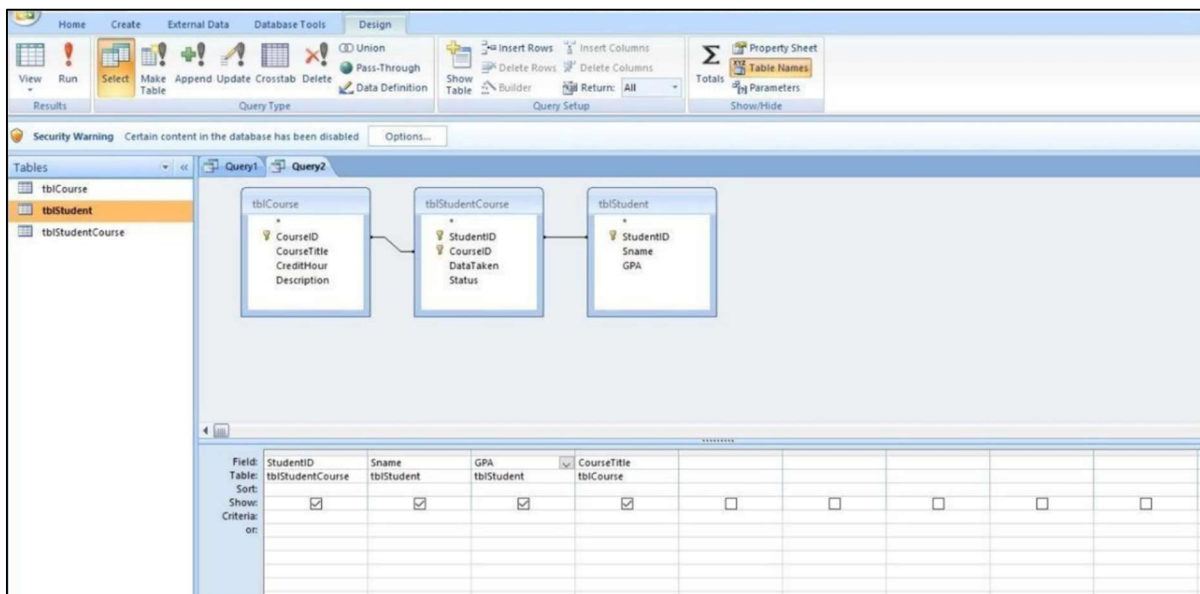


Fig.6

BIBLIOGRAPHY

Here are some of the resources which helps me to develop this project: -

BOOKS

-DBMS

WEBSITES

-Google

-Yahoo Search

PEOPLES

-Prof. Debasish Biswas

-My Friends

-My Family