STUDENT DATABASE MANAGEMENT SYSTEM

A Report

Submitted in partial fulfillment of the requirements for the Final Year Project of

Bachelor of Computer Application

By

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2021-22

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CSJM university Kanpur
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CERTIFICATE

Date: 20 July 2022

*This is to certify that the report of project work entitled **("Student Database Management System")** is being submitted by **(Shivam Kaushal 0204807)**and **(Satyam Tiwari 0204798)and(Sumit Yadav 0204830)**in partial fulfillment of the requirements for the Final Year Project of (department name) to the University Institute of Engineering & Technology, CSJM University, Kanpur during the academic year 2019-22 is a record of bonafide work carried out by him under our guidance and supervision .*

The results embodied in this report have not been submitted by the student(s) to any other University or Institution for the award of any degree or diploma. (Font: 14, TNR, italic)

Internal Guide **Head of Departmen**

Dr. Mamta Tiwari **Mr. Amit Virmani**

ACKNOWLEDGEMENT

I express my deep sense of gratitude to my **Director (University Institue of Engineering and Technology)** for thevaluable guidance and for permitting us to carry out this project.

.

With gratitude,

1 Shivam Kaushal.

2. Satyam Tiwari

3. Sumit Yadav

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Name **Page**

Points to be considered while submission of project

1.
The cover page must be hard bound in Black Color; with Gold Embossing .
2.
The size of the report would depend on the project undertaken. However it must be 120 - 150 typed pages (Single space) on A4 size paper.
3.
All the students are required to use the uniform font and format (except in heading and subheadings) throughout the text of the report. For example, if anybody uses “Times New Roman” of font size 12 in the text, then he/she will
be using the same throughout the report.
4.
The report (at the time of submission) should have the following page margins:
Top and Bottom edge : 25 mm (1inches) Left and right side : 32 mm (1.25inches)

All page numbers should be typed at the center of page at the bottom.

5.

The project report must accompany a certificate authenticating the originality of the work done in the prescribed format, as indicated below.

6.

The student is required to submit TWO hard copies of the project report hardly bound in BLACK color hard rexin binding with goldenengraved letters and two soft copies on CD (full source code in working condition).

7.

Along with this, students will keep one copy of the project for their further reference in future and one copy to the organization where they have done their training (if required).

8.

There should not be any deviation from the Cover page as given in the format prescribed .

9.

Letter of Authentication should be submitted by students declaring that the Project Report is the original work of student and no reward had been attained for same project ever before. Students are advised not to COPY the project report from other students.

10.

Authorization from Organization / Institute/ University/ where such Project have been implemented should be added with certificate showing the student name, project name with future recommendations of organization if any.

11.

Certificate from the Project Guide certifying the project work done under his/her guidance along with course, student name & project details complete in all respects.

12.

PPT(Power Point Presentation) must be prepared.

Student Database Management

MAIN REPORT

OF

STUDENT DATABASE MANAGEMENT SYSTEM

(Shivam Kaushal "S_D_M_S")

ANNEXURE

OF

STUDENT DATABASE MANAGEMENT SYSTEM

Shivam Kaushal

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INTRODUCTION

Organization Overview

The Student Database Management requires a system that will handle all thenecessary and minute details easily and proper database security accordingly to the user. They requires software, which will store data about members, employees, products, payroll, receipts of members etc

Objective of the Project

- The main objective of the project is to design and develop a user friendly system.
- Easy to use and efficient computerized system.
- To develop an accurate and flexible system, it will eliminate data redundancy.
- Computerization can be helpful as means of saving time & money.
- To provide better graphical user interface.
- Less chances of information leakage.
- Provides security to data by using login & password.

Scope of the Project

- Storing information of members, employees.
- Check Data of information provided by user.
- Storing information of members according to their id.
- Generating reports for different id.

THEORETICAL BACKGROUND

2.1 Introduction to Project

An organized and systematic office solution is essential for all universities and organizations. There are many departments of administration for the maintenance of college information and student databases in any institution. All these departments provide various records regarding students. Most of these track records need to maintain information about the students. This information could be the general details like student name, address, performance, attendance etc orspecific information related to departments like collection of data. All the modules in college administration are interdependent. They are maintained manually

2.2 System Study

It is always necessary to study and recognize the problems of existing system, which will help in finding out the requirements for the new system. System study helps in finding different alternatives for better solution.

The project study basically deals with different operations and steps involved in generation of examination mark sheets. Ti includes:

1. Data gathering
2. Study of existing system
3. Analyzing problem
4. Studying various documents
5. Feasibility study for further improvements

Following are the steps taken during the initial study:
Initially, we collected all the information, which they wanted to store. Then we studied the working of the current system which is done manually. We noted the limitation of that system which motivated them to have new system.
With the help of these documents we got basic ideas about the system as well as input output of the developed system.

The most important thing is to study system thoroughly.

Here we are studying both existing system and proposed system so thatadvantages & disadvantages of both the systems can be understood

2.2 Existing System

The student database is working manually. The current system is time consuming and also it is very costly, because it involves a lot of paperwork. To manually handle the system was very difficult task. But now-a-days computerization made easy to work.

The following are the reasons why the current system should becomputerized:

- To increase efficiency with reduced cost.
- To reduce the burden of paper work.
- To save time management for recording details of each and every member and employee.
- To generate required reports easily.

Limitations of existing system:

- Time consumption:
  As the records are to be manually maintained it consumes a lot of time.

- Paper work:
  Lot of paper work is involved as the records are maintained in the files & registers

- Storage requirements:

  As files and registers are used the storage space requirement is increased.

- Less reliable:
  Use of papers for storing valuable data information is not at all reliable.

- Accuracy:

  As the system is in manual there are lot many chances of human errors. These can cause errors in calculating mechanism or maintaining customer details.

- Difficulty in keeping new records:
  It is difficult for keeping all the new entries of members, their account and transaction details.

2.3Proposed System

The Proposed System means the assembly of an operational group of computer programs that will perform, without modification, a significant portion of the functional requirements contained in this RFP

Scope of proposed system:

The system proposed has many advantages.

1. The proposed system is highly secured, because for login the system it requires the username and password which is different for each department therefore providing each department a different view of the customer information.
2. It provides wide range of certain criteria in each window the client is working for better and quicker solution.
3. It maintains report for all criteria and transactions.
4. Manages member information separately for all exercise and employee information separately for considering the requirements of gym.
5. Stores information about regular products.
6. This system can run on any windows operating system.

2.4SYSTEM ANALYSIS & DESIGN

The way that is followed while carrying on with the developmentapplication is as follows

Phase I (defining a problem)

Defining a problem is one of the important activities of theproject. The objective is to define precisely the business problem to be solved & thereby determined the scope of the new system. This phase consist of 2 main tasks. The 1st task within this activityis to review the organization needs that originally initiated the project. The 2nd task is to identify, at an abstract or general level, the expected capabilities of the new system. Thus, it helps us to define the goal to be achieved & the boundary of the system. A clear understanding of the problem will help us in building a better system & reduce the risk of project failure. It also specifies the resources that have to be made available to the project.

Three important factors project goal, project bounds & the resource limits are sometimes called the project's term of reference.

Phase II (feasibility study):

The first study aspect is whether the current project is technically feasible i.e. whether the project be carried out with the current equipment, existing software and available personnel. If new technology is required than what is the likelihood that it can be developed?

The second study aspect is whether the project is economically feasible i.e. are there sufficient benefits in creating the system tomake the cost acceptable. Are the costs of not creating the system so great that the project must be undertaken?

The third study aspect is whether the project is operationally feasible or not i.e. whether the system will be used if it is developed and implemented? Project is worth developing only if it can meet institutions operating requirements.

The feasibility study proposes one or more conceptual solutions to the problem set for the project. The objective in assessing feasibility is to determine whether a development project has a reasonable chance of success. It helps us to determine the input & output of the system. The following are the criteria that are considered to confirm the project feasibility.

The following feasibility study was undertaken for the proposed system:

Technical feasibility:

At first it's necessary to check that the proposed system is technically feasible or not & to determine the technology and skillnecessary to carry out the project. If they are not available then find out the solution to obtain them. Hardware is already available in the collage.

Economic feasibility:

While considering economic feasibility, it is checked in points like performance, information and outputs from the system. MS Access is available in one package of the windows operating system & does not require additional software cost for the client tools. The cost incurred to develop the system is freeware & doesnot incur the cost to the project. Backend database technology isa freeware. This justifies economical feasibility of the system.

Social feasibility:

Although generally there is always resistance, initially to any change in the system is aimed at reliving the work load of the users to extent the system is going to facilitate user to perform operations like calculating salary amounts and deductions, generating reports with less possible errors. Thus there is no reason to make system socially unfeasible.

Operational feasibility:

The operational feasibility is obtained by consulting with the system users. Check that proposed solution satisfies the user needs or not. There is no resistance from employee since new system is helpful. The existing system is manual system, while the new system is computerized and extremely user friendly.

Software details of the proposed system:

- **Netbeans IDE 13**
- **MYSQL**
- **JFrame**

Phase III (System Analysis):

The phase is detailed appraisal of the existing system. Thisappraisal includes how the system works and what it does. It alsoincludes finding out more detail- what are the problems with the system and what user requires from the system or any new changein the system.

The output of this phase results in detail model of the system. The model describes the system functions & data & systeminformation flow. The phase also contains the detail set of user requirements are used to set objectives for new system.

System study:

System study involves Study of an existing system, Documenting of existing system and Identifying currentdeficiencies and establishing new goals.

Data gathering

1. Study of existing system
2. Analyzing problem
3. Studying various documents
4. Feasibility study for further improvements

Following are the steps taken during the initial study:

- Initially, we collected all the information, which they wanted to store.
- Then we studied the working of the current system which is done manually. We noted the limitations of that system which motivated them to have a new system
- Then we analyzed the format the reports generated by the system.

With the help these documents we got basic ideas about the system aswell as input & output of the developed system.

SYSTEM IMPLEMENTATION

4.1 Methodology Adopted

The Spiral Model:

The *spiral model,* originally proposed by Boehm, is evolutionary software process model that couples the iterative nature of prototyping with the controlled and systematic aspects of the linear sequential model. It provides the potential for rapid development of incremental versions of the software. Using the spiral model, software is developed in a series of incremental releases. During early iterations, the incremental release might be a paper model or prototype. During later iterations, increasingly more complete versions of the engineered system are produced. A spiral model is divided into a number of framework activities, also called *task regions.*6 typically, there are between three and six task regions. Figure depicts a spiral model that contains six task regions:

• **Students communication**—tasks required to establish effective communication between developer and student.

• **Planning**—tasks required to define resources, timelines, andother project related information.

• **Risk analysis**—tasks required to assess both technical and management risks.

• **Engineering**—tasksrequired to build one or morerepresentations of the application.

• **Construction and release**—tasks required to construct, test, install, and provide user support (e.g., documentation and training).

• **Studens evaluation** evaluation is an assessment by

learners of the service provided by the institution,

be it solely of the classroom experience or of all aspects of the learning experience. in some countries, such as the United States and Canada, 'student evaluation' has the same meaning as assessment of students'

4.2 SYSTEM REQUIREMENTS

Hardware and SoftwareSpecification:

HARDWARE:

1) *Minimum 4 GBHDDspace*
2) *Pentium basedprocessor*
3) *128 MBRAM*
4) *Printer(any)*
5) *Power Supply For Backup*

SOFTWARE:

1) *Netbeans ide 13*

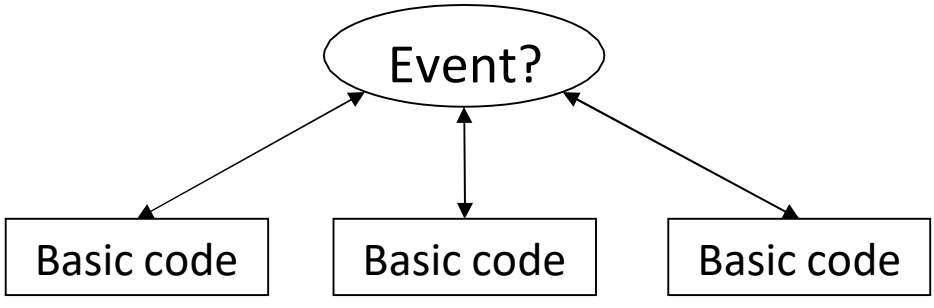
4.3 Technologies used

A) JavaScript and Jframe as the front end:

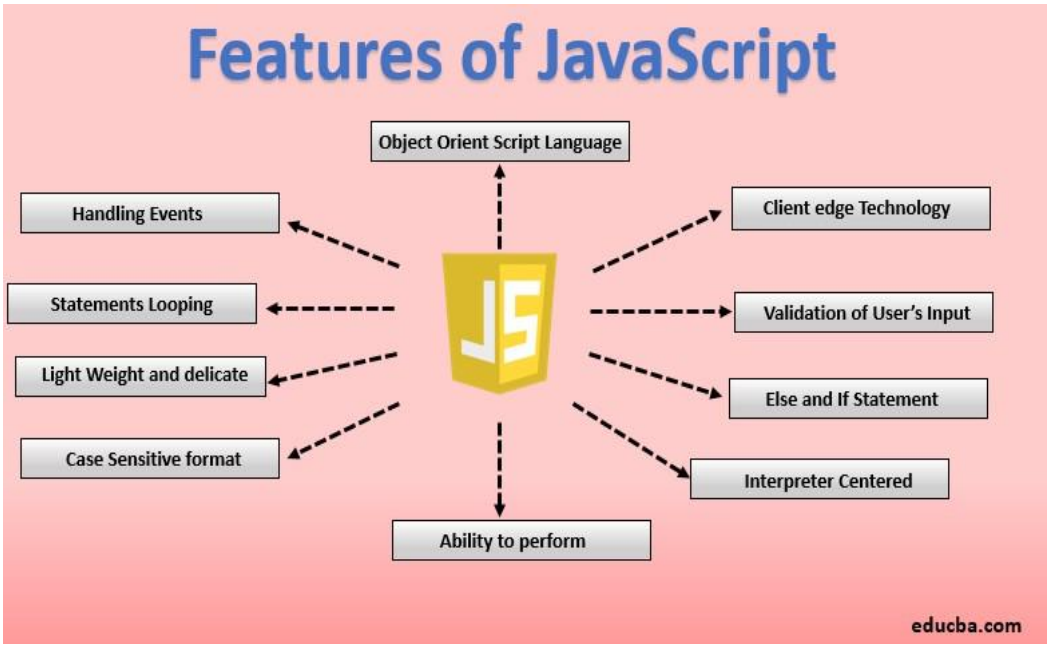
Here is some discussion about JavaScript and Jframe:

What is JAVASCRIPT and JFRAME

- **JavaScript** => Welcome to the MDN beginner's JavaScript course! In this article we will look at JavaScript from a high level, answering questions such as "What is it?" and "What can you do with it?", and making sure you are comfortable with JavaScript's purpose.
- **Jframe** `JFrame` is a Swing's top-level container that renders a window on screen. A frame is a base window on which other components rely, such as menu bar, panels, labels, text fields, buttons, etc. Almost every Swing application starts with `JFrame`



Some features of javascript and Jframe:



(2)

JavaScript

The following article provides a detailed outline of the features of JavaScript. Java Script was developed by Brendan Eich in Netscape in 1995 for coding in web pages allowing the logical operation to client edge. JavaScript is mainly a client edge script language. This object-centered script language most commonly used for designing web pages which are a standalone language developed in Netscape. It gives the user extra control over the browser with potential in the creation of new functions in scripts. This scripting language features case sensitive input with the detection of the user's browser and operating system. JavaScript is mostly used by validation in client edge technology.

1. **Object-Centered Script Language->** Object Centered Language features built in the object as Java Script has a window object. Some Common Examples of Object Centered languages are Java Script and Visual Basic etc. The object-centered languages are mostly used for features like Polymorphism which is a quality of taking an object in many forms.
2. **Client edge Technology->** The client is basically a term used for Web Browser in respective of User. The data on the server gets uploaded by a client which later used by a user in the

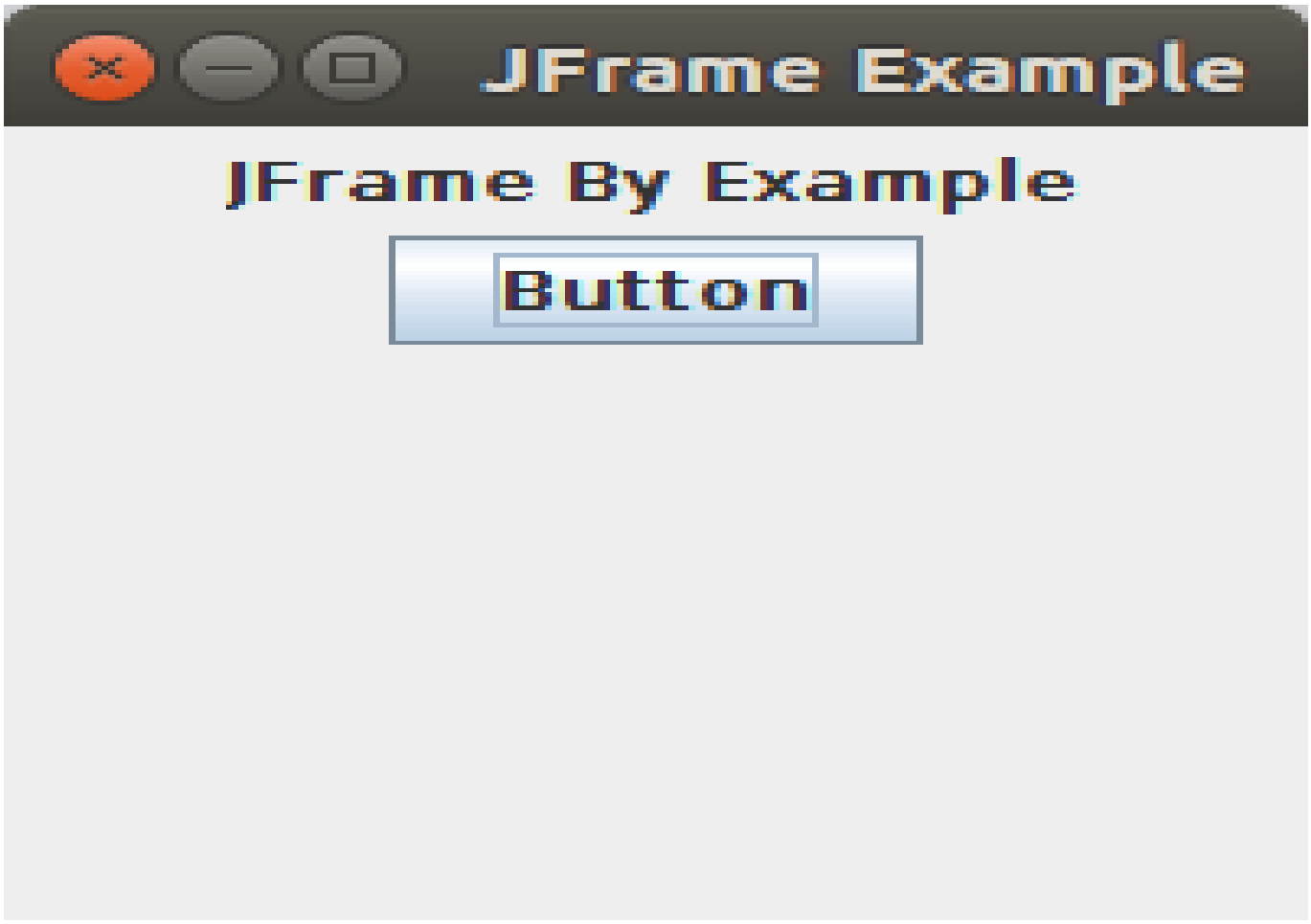
rendered form. The user gets access to the client through a web browser for surfing and interacting through websites. The client edge technology in Java Script allows the client to have full control over the content which is being updated in servers.

3. **Validation of User's Input->** Validation of User's Input is most commonly known as form validation, it allows users to interact with client through filling forms through web pages. The details in the form need to be correctly filled where form validation helps the client to validate the details entered by the user.
4. **Else and If Statement->** IF and Else Statements are used to perform logical operations.
5. **Interpreter Centered->** Java Script is built with Interpreter Centered which allows the user to get the output without the use of Compiler. That means the input performed by the user gets rendered directly without the compiling of codes
6. **Ability to perform In Built Function->** Java Script has many In-Built Functions like isNAN (), Number (), parseFloat () and parseInt () etc. isNAN () Function is used to identify that input object is correct number format. parseFloat () function is used in the conversion of the object into a number. parseInt () Function is used to analyze strings.
7. **Case Sensitive format->** The codes written in Java Script are Case Sensitive which explains that there will be no difference in the output whether the codes are written in Upper Case or Lower Case Format.
8. **Light Weight and delicate->** Java Script Features Light Weight and delicate and codes written in JavaScript don't include variables and uses only objects to perform the operations
9. **Statements Looping->** The statement looping is used to perform the same operations repeatedly. In this operation the same set of code run in repeat manner for a specific or unspecific set of time.

10. **Handling Events->** The Java Script has the ability to control operations updated on servers. This is basically controlling the response on the website when the user tries to perform any operation the server handled by the client like clicking on links and options, interaction response over the website, etc.

JFrame

Unlike a Frame , a JFrame has some notion of how to respond when the user attemptsto close the window. The default behavior is to simply hide the JFrame when the user closes the window. To change the default behavior, you invoke the method setDefaultCloseOperation(int)


JFrame Example
JFrame By Example
Button

COST AND BENEFIT ANALYSIS

Cost Estimation

Cost required for the project is to install the software andhardware requirements. Software may include installing Microsoft Access on the system. Cost due to the time taken for completion of the project which can be around 5 months. A Gantt chart given in the beginning helps to understand this in a better way.

Benefit Analysis

Due to the introduction of this system the cost of handling the system is reduced. The cost mainly includes the charges for registry maintenance, receipt books, files, etc. Toreduce the costs the new system was proposed. Positive aspects of the designed system which contributed to the benefit analysis are fast and easy storage of all information. Itwas also easy to retrieve any required details as fast as possible. There is no need for maintaining receipt books. Thenew system is very beneficial than because the system is fullyautomated.

DETAIL LIFE CYCLE OF THE PROJECT

Phased development process

A development process consists of various phases,each phase ending with a defined output. The main reason for having a phased process is that it breaks the problem of developing software into successfully performing a set of phases, each handling a different concern of software development.

Requirement Analysis:

- Requirements analysis is done in order to understand the problem the software system is to solve. The goal of the requirements activity is to document the requirements in a software requirements specification document.
- There are two major activities in this phase: Problem Understanding or Analysis and Requirement Specification. In problem analysis, the aim is to understand the problem and its context, and the requirements of the new system that is to be developed.
- Once the problem is analyzed and essentials understood, the requirements must be specified in the requirements specification document. The requirements specification document. The requirement document must specify all functional and performance requirements; the formats of inputs and output; and all design constraints that exist due to political, economic, environmental, and security reasons.

Software Design:

- The purpose of the design phase is to plan a solution of the problem specified by the requirements documents. This phase is the first step in moving from the problem domain to the solution domain.
- The design activity often results in three separate outputs:-
  - Architecture Design –

    It focuses on looking at a system as a combination of many different components, and how they interact with each other to produce the desired results.

  - High Level Design –

    It identifies the module that should be built for developing the system and thespecifications of these modules.

  - Design Level Design –

    The internal logic of each of the modulesis specified.

Coding:

- The goal of the coding phase is to translate the design of the system into code in a given programming language. For a given design, the aim in this phase is to implement the design in the best possible way.
- The coding phase affects both testing and maintenance profoundly. Well-written code can reduce the testing and maintenance effort. The testing and maintenance costs of software are much higher than coding cost. Hence during coding the focus should be developing programs that are easy to read and understand, and not simply on developing programs that are easy to write. Simplicity and clarity should be strived for during the coding phase.

Testing:

- Testing is the major quality control measure used during software development. Its basic function is to detect defects in the software. The goal of testing is to uncover requirement, design, and coding errors in the programs.
- The starting point of testing is **unit testing,** where the different modules or components are tested individually.
- The modules are integrated into the system; **integration testing** is performed, which focuses on testing the interconnection between modules.
- After the system is put together, **system testing** is performed. Here the system is tested against the system requirements to see if all the requirements are met and if the system performs as specified by the requirements.
- Finally the acceptance testing is performed to demonstrate to the client, on real-life data of the client, the operation of the system.
- Then for different test. A test case specification document is produced, which lists all the different test cases, together with the expected outputs.
- The final output of the testing phase is the test report and the error report, or set of such reports. Each test report contains the set of test cases and the result of executing the code with these test cases.

ENTITY RELATIONSHIP DIAGRAMS

ERD:

The entity-relationship (ER) data model allows us to describe the data involved in a real world enterprise in terms of object and their relationships and is widely usedto develop an initial database design.

The ER model is important primarily for its role in database design. It provides useful concepts that allow usto move from an informal description of what users wantfrom their database to a more detailed and precise description that can be implemented in a DBMS. The ERmodel is used in a phase called “Conceptual Database Design”. It should be noted that many variations of ER diagrams are in use and no widely accepted standards prevail.

ER modeling is something regarded as a complete approach to design a logical database scheme. This is incorrect because the ER diagram is just an approximate description of data, constructed through a very subjectiveevaluation of the information collected during requirements analysis.

Entity:

ER modeling is something regarded as a complete approach to design a logical database schema. This is incorrect because the ER diagram is just an approximate description of data, constructed

through a very subjective

evaluation of the information collected duringrequirements analysis.

An entity is an object in the real world that is distinguishable from other objects. Examples include thefollowing: The address of the manager of the institution,a Person with unique name etc.

It is often useful to identify a collection of similar entities. Such a collection is called as “Entity set”. Note that entity set need not be disjoint.

Attributes:

An entity is described using a set of attributes. All entities in a given entity set have the same attributes; thisessentially what we mean by similar. Our choice of attributed reflects the level of detail at which we wish torepresent information in crisis.

For e.g. The Admission entity set would use the name, age, and qualification of the students as the attributes. In this case we will store the name, the registryno, the course enrolled of the student and not his/her address or the gender.

Domain:

For each attribute associated with an entity set, we must identify a domain of possible values.

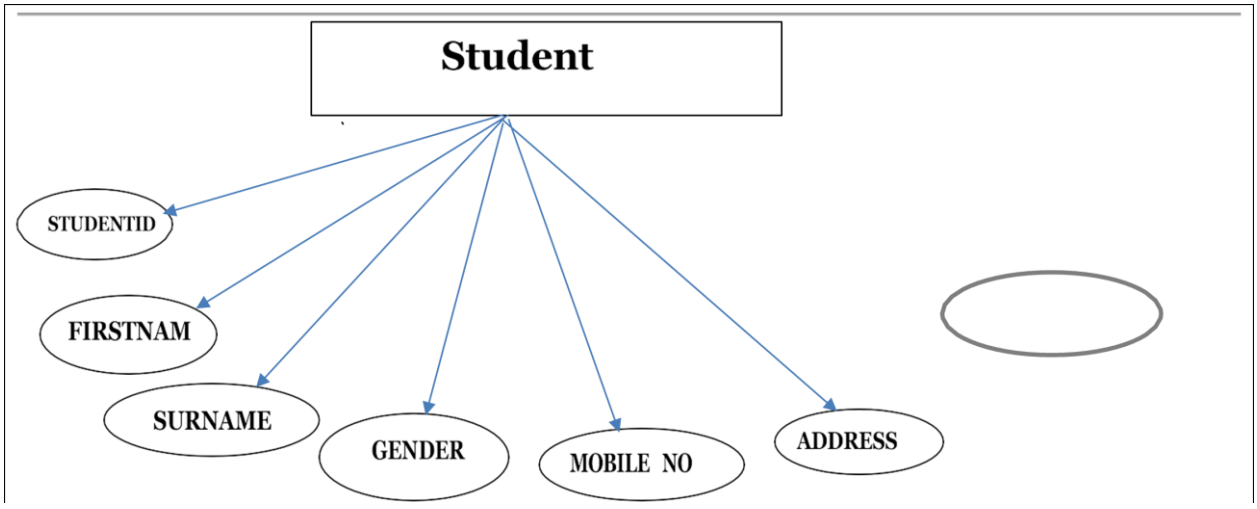
For e.g. the domain associated with the attribute name of the student might be of the set of 20-characterstring.

Another example would be the ranking of the students in the institute would be on the scale of 1-6, theassociated domain consists of integers 1 through 6.

Key:

Further, for each entity set we choose a key. A key is a minimal set of attributed whose values uniquely identify an entity in the set. There could be more than one candidate; if so we designate one of them as primarykey. For now we will assume that each entity set containsat least one set of attributes that uniquely identify an entity in the entity set; that is the set of attributes containsa key.

DIAGRAMS


Student
STUDENTID
FIRSTNAM
SURNAME
GENDER
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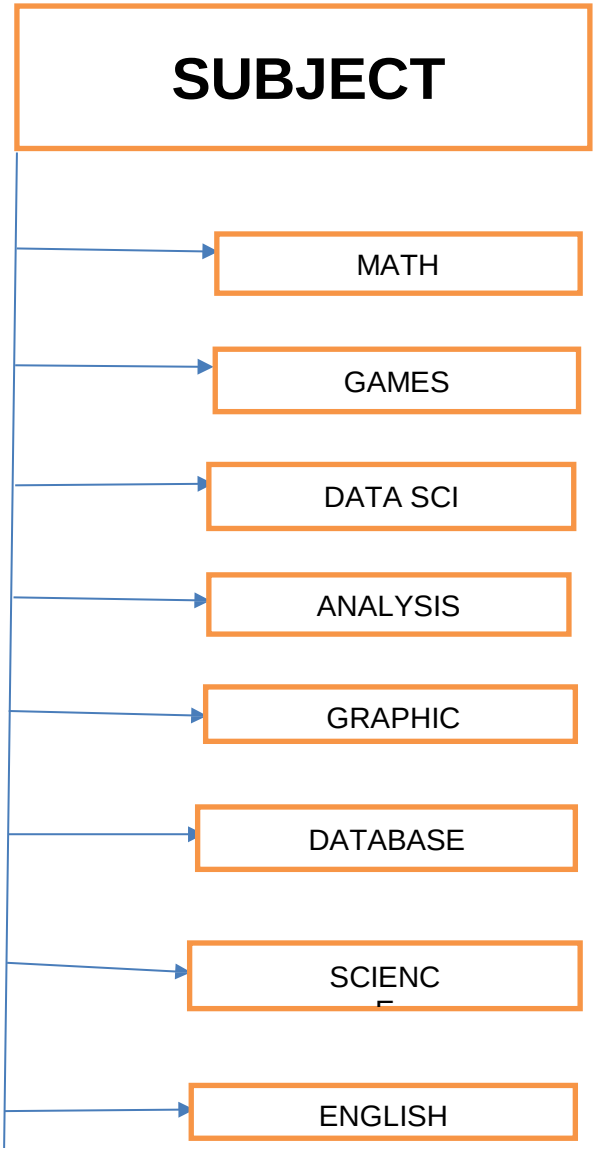
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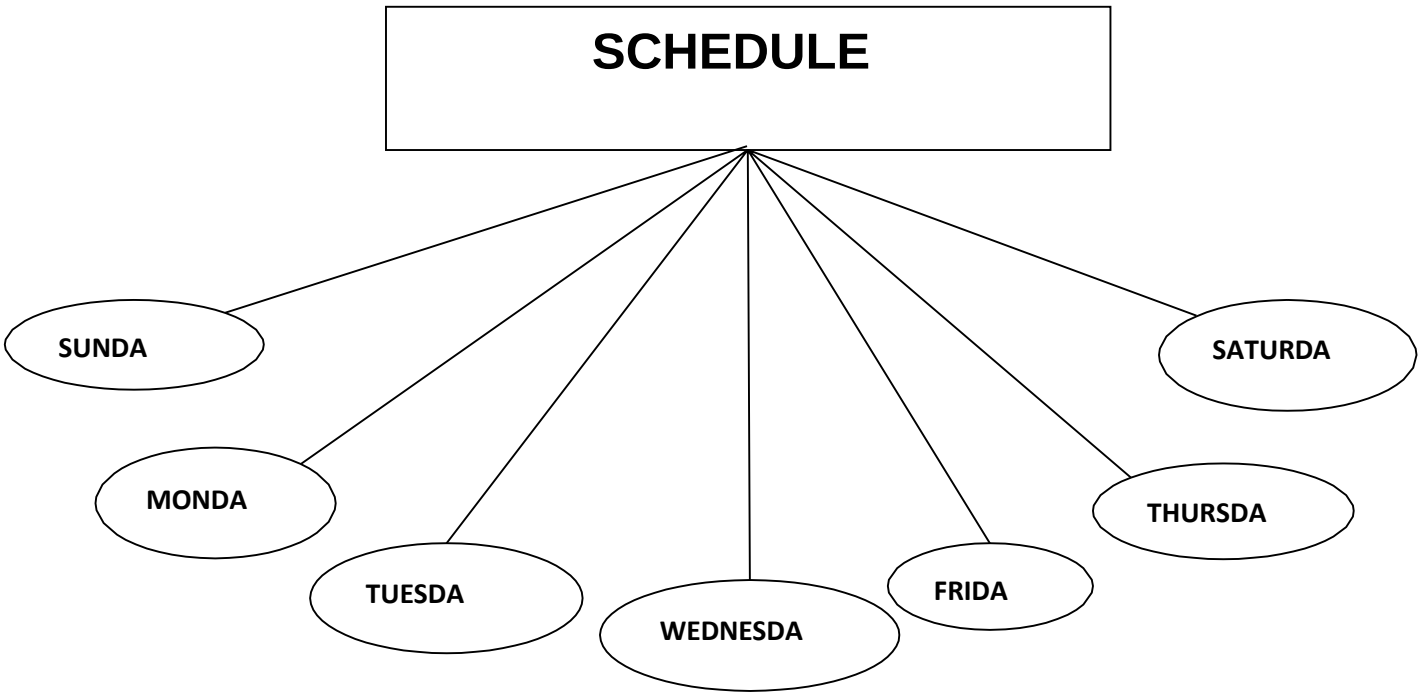


DATA FLOW DIAGRAM

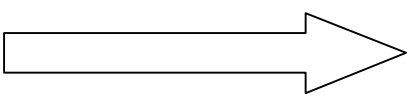
Data Flow Diagram:

A data flow (DFD) is a graphical system model that shows all of the main requirements for an information system in one datagram: inputs and outputs, processes, and data storage. A DFD describes what data flows rather than how it is processed. Everyone working on a development project can see all aspects of the system working together at once with DFD. That is one reason for its popularity. The DFD is also easy to read because itis graphical model. The DFD is mainly used during problem analysis. End Users, management, and all information systems workers typically can read and interpret the DFD with minimal training.

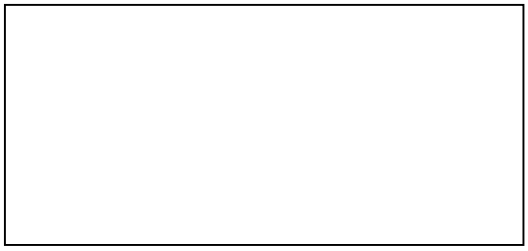
DFD SYMBOLS:

1. Process

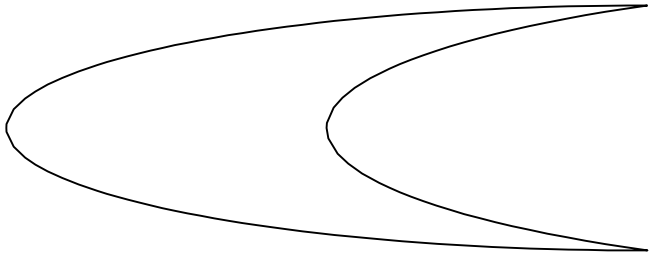
2. Data Flow



3. External Entity

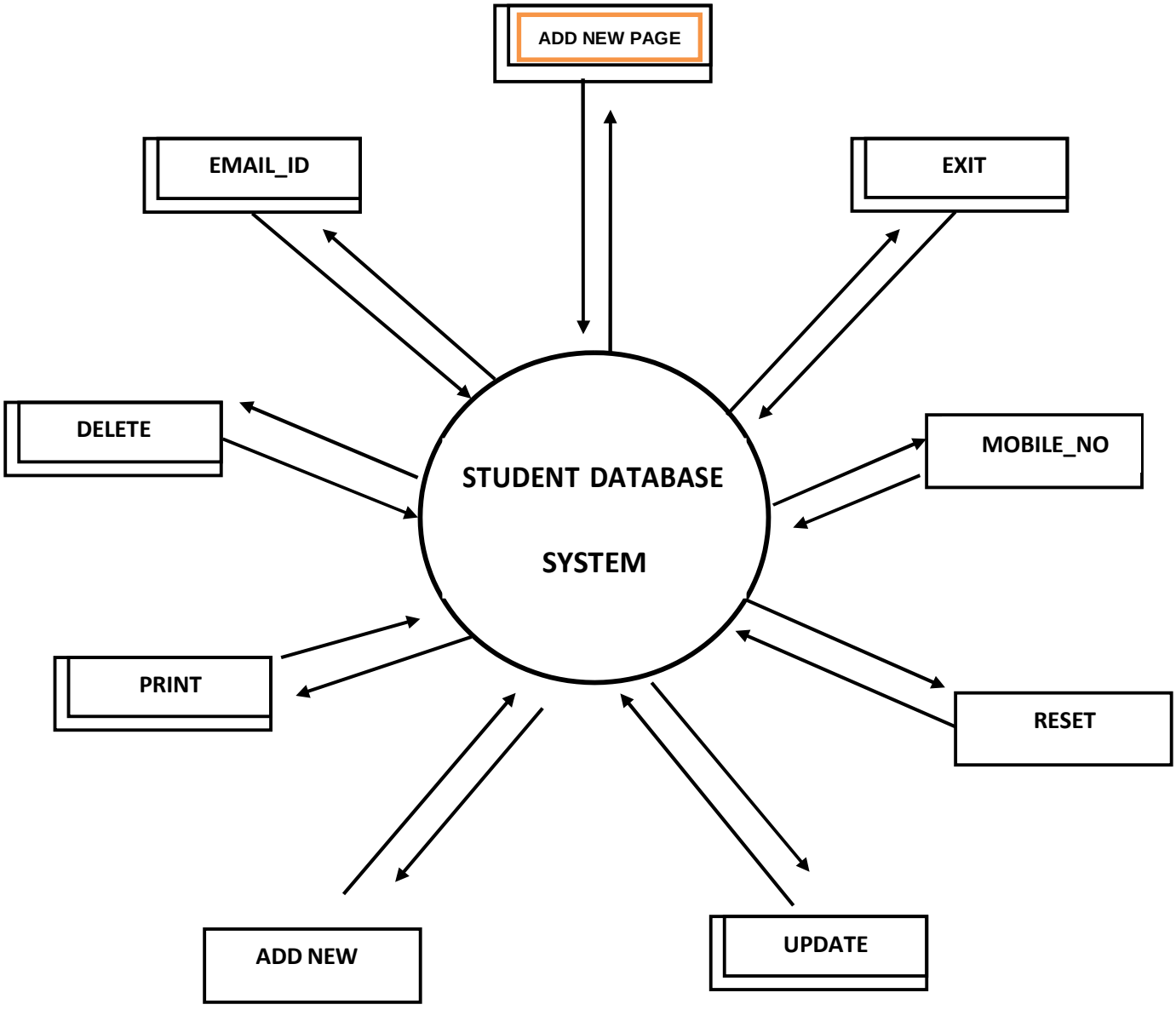


4. Data Store



CONTEXT LEVEL DIAGRAM

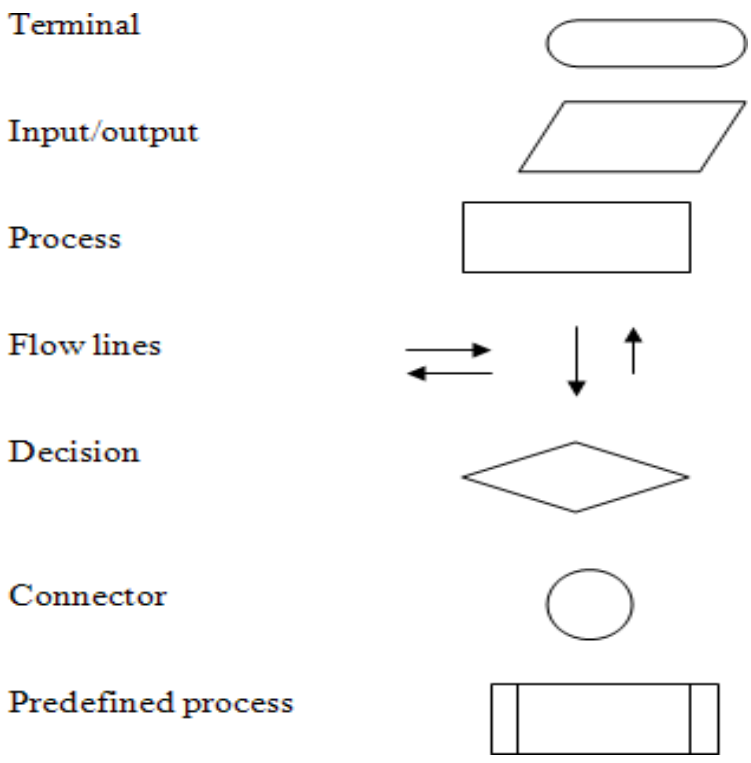
The context diagram is useful for showing boundaries. The system scope is defined by what is represented within single process and what is represented as an external agent. Externalagents that supply or receive data from the system are outsideof the system scope. Everything else is inside the system scope. Data stores are not usually shown on the context diagram because all of the system's data stores are consideredto be within the system scope. The context diagram is simply the highest-level DFD. It is also called as Level 0 DFD. The context diagram provides a good overview of the scope of thesystem, showing the system in "context" but it does not showany detail about the processing that takes place inside the system.

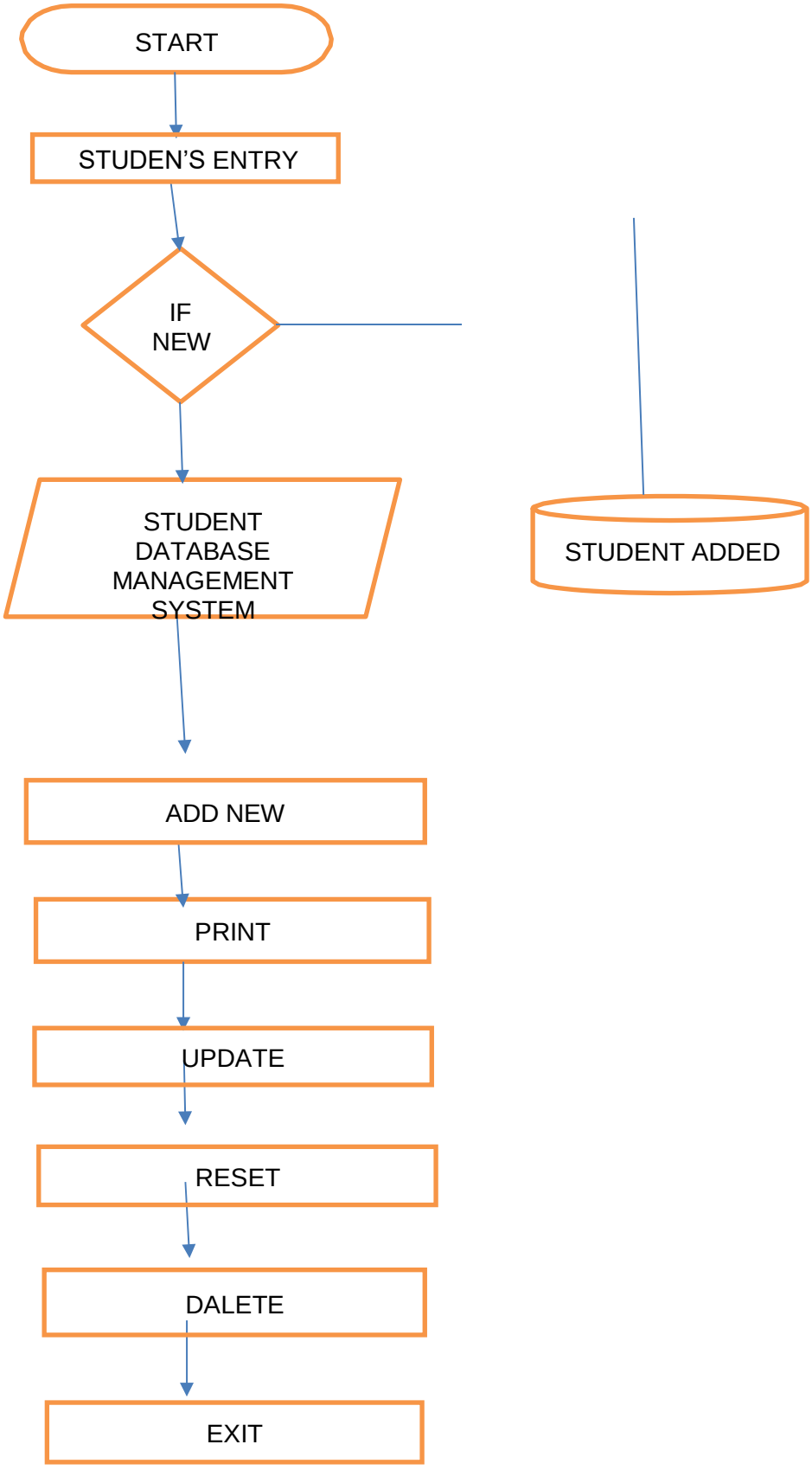

ADD NEW PAGE
EMAIL_ID
EXIT
DELETE
STUDENT DATABASE
SYSTEM
MOBILE_NO
PRINT
RESET
ADD NEW
UPDATE

SYSTEM FLOW CHART

Flow chart:

Flow charts are required to understand the system well.With the help of these charts it becomes easy to understand the inputs and outputs of the system which is helpful in laterstages of development of the software.

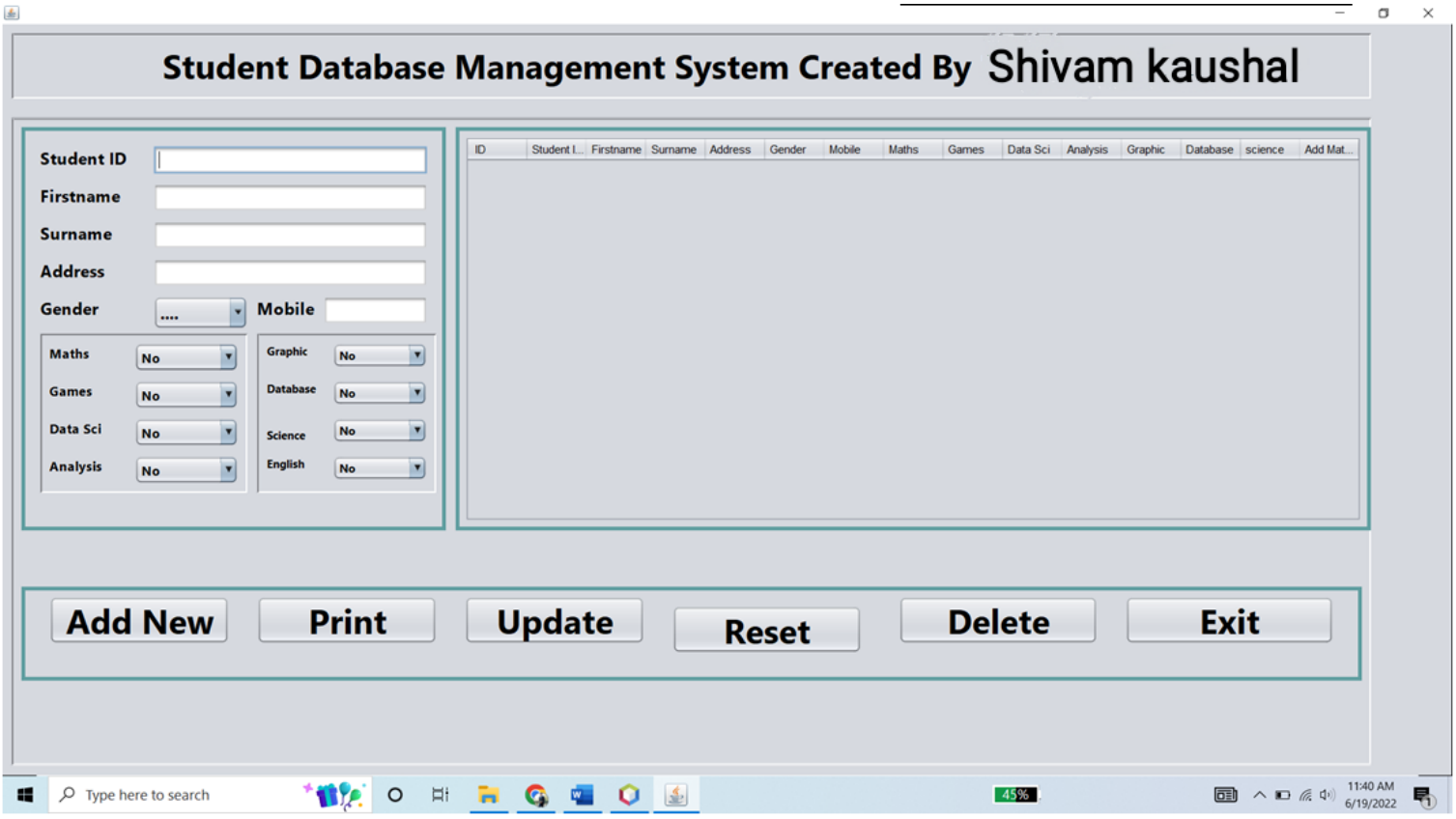



START
STUDEN'S ENTRY
IF
NEW
STUDENT ADDED
STUDENT
DATABASE
MANAGEMENT
SYSTEM
ADD NEW
PRINT
UPDATE
RESET
DALETE
EXIT

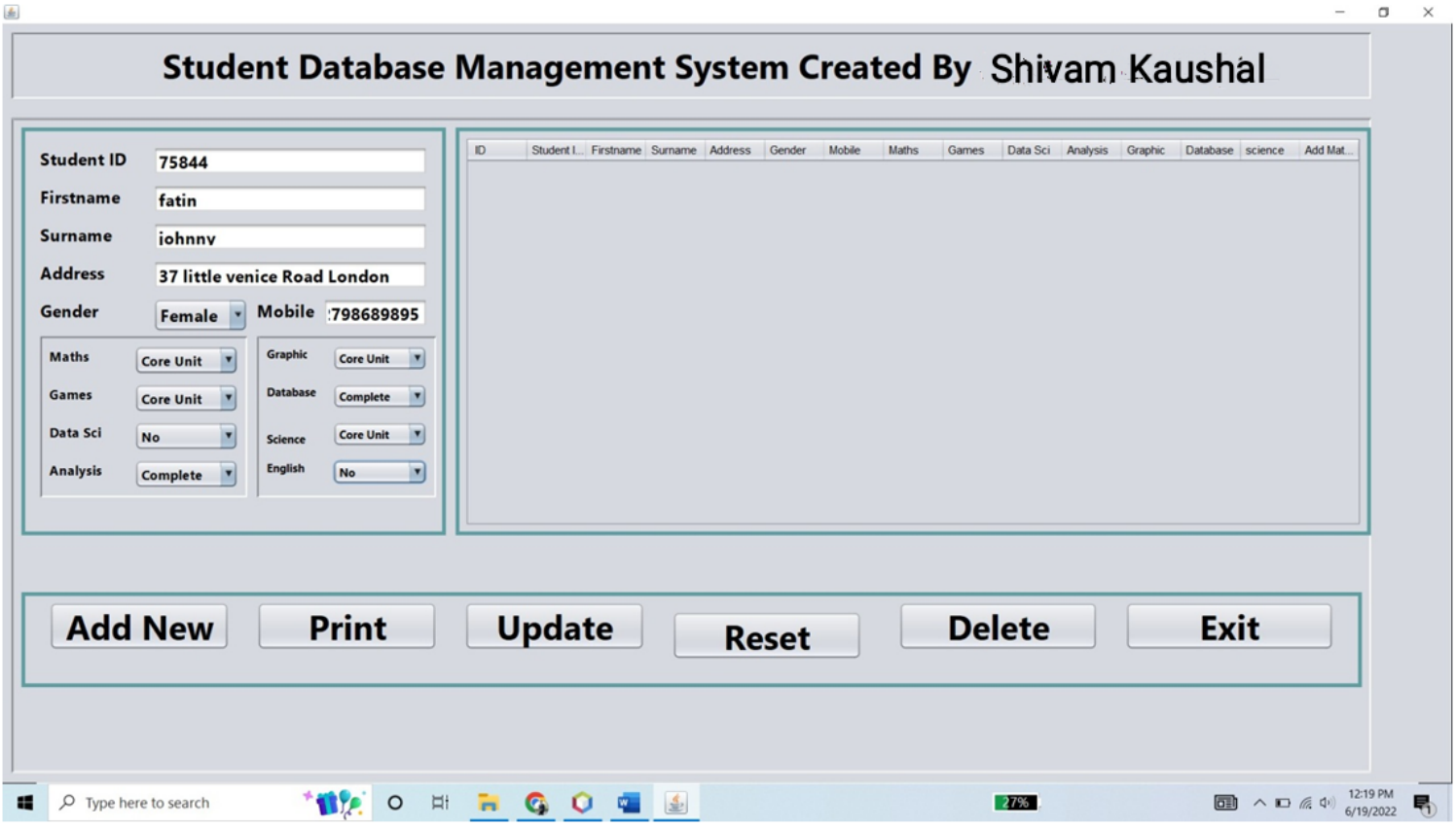
TESTING REPORT

Screen Short of Shivam Kaushal Student Database Management

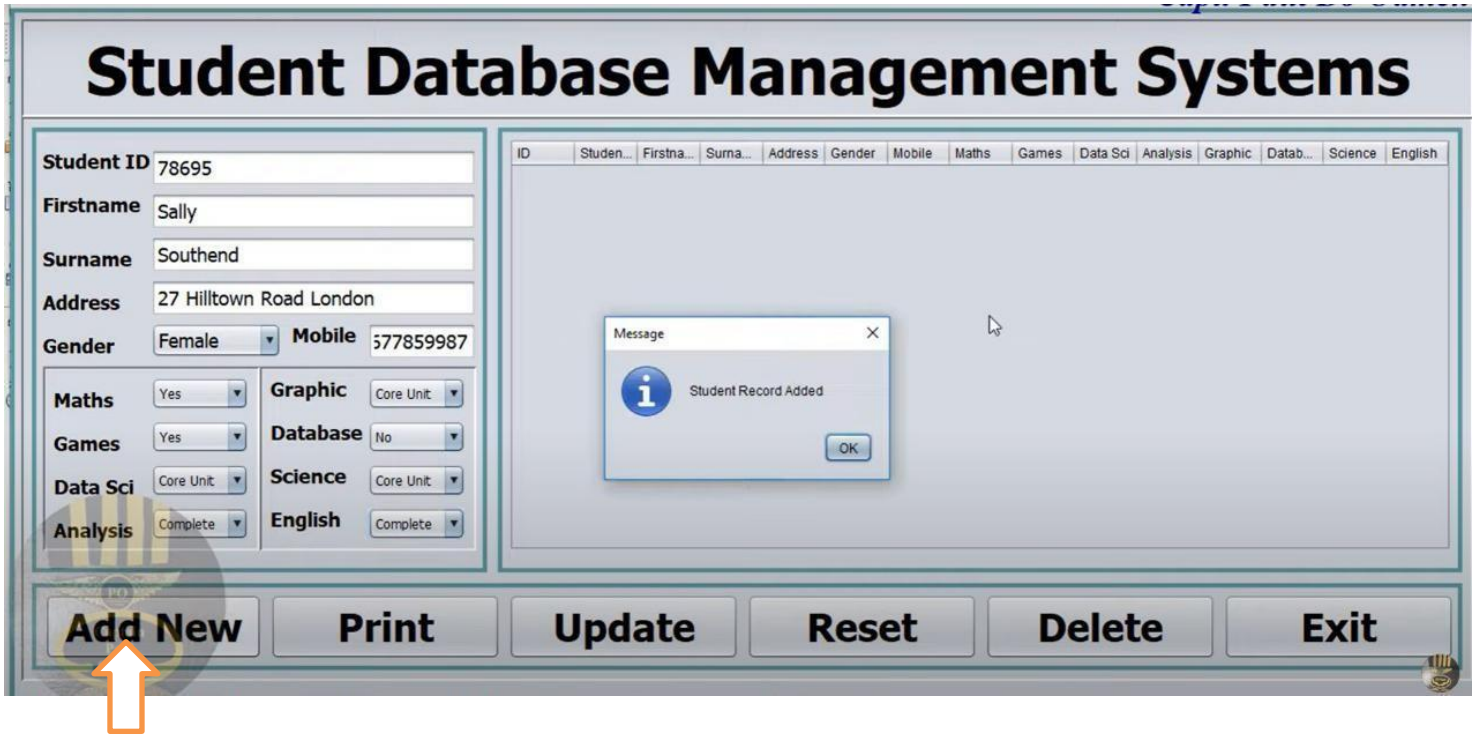
Front page



Student add


Student Database Management System Created By Shivam Kaushal
Student ID
75844
Firstname
fatin
Surname
iohnnv
Address
37 little venice Road London
Gender
Female
Mobile
:798689895
Maths
Core Unit
Games
Core Unit
Data Sci
No
Analysis
Complete
Graphic
Core Unit
Database
Complete
Science
Core Unit
English
No
ID
Student I...
Firstname
Surname
Address
Gender
Mobile
Maths
Games
Data Sci
Analysis
Graphic
Database
science
Add Mat...
Add New
Print
Update
Reset
Delete
Exit
Type here to search
27%
12:19 PM
6/19/2022

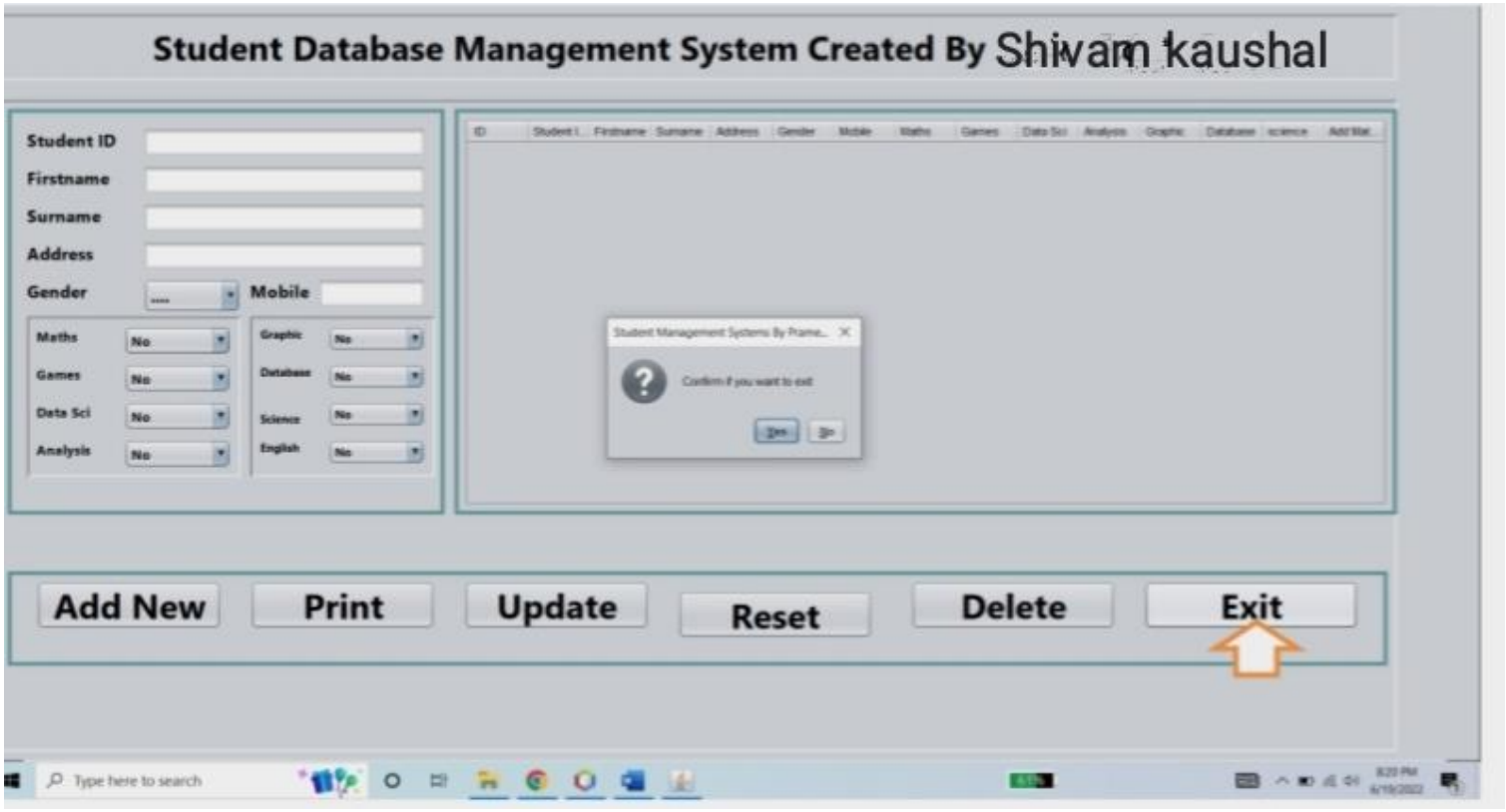
NEW DATA ADD


Student Database Management Systems
Student ID 78695
Firstname Sally
Surname Southend
Address 27 Hilltown Road London
Gender Female
Mobile 577859987
Maths Yes
Games Yes
Data Sci Core Unit
Analysis Complete
Graphic Core Unit
Database No
Science Core Unit
English Complete
ID Studen... Firstna... Surna... Address Gender Mobile Maths Games Data Sci Analysis Graphic Datab... Science English
Message
Student Record Added
OK
Add New
Print
Update
Reset
Delete
Exit

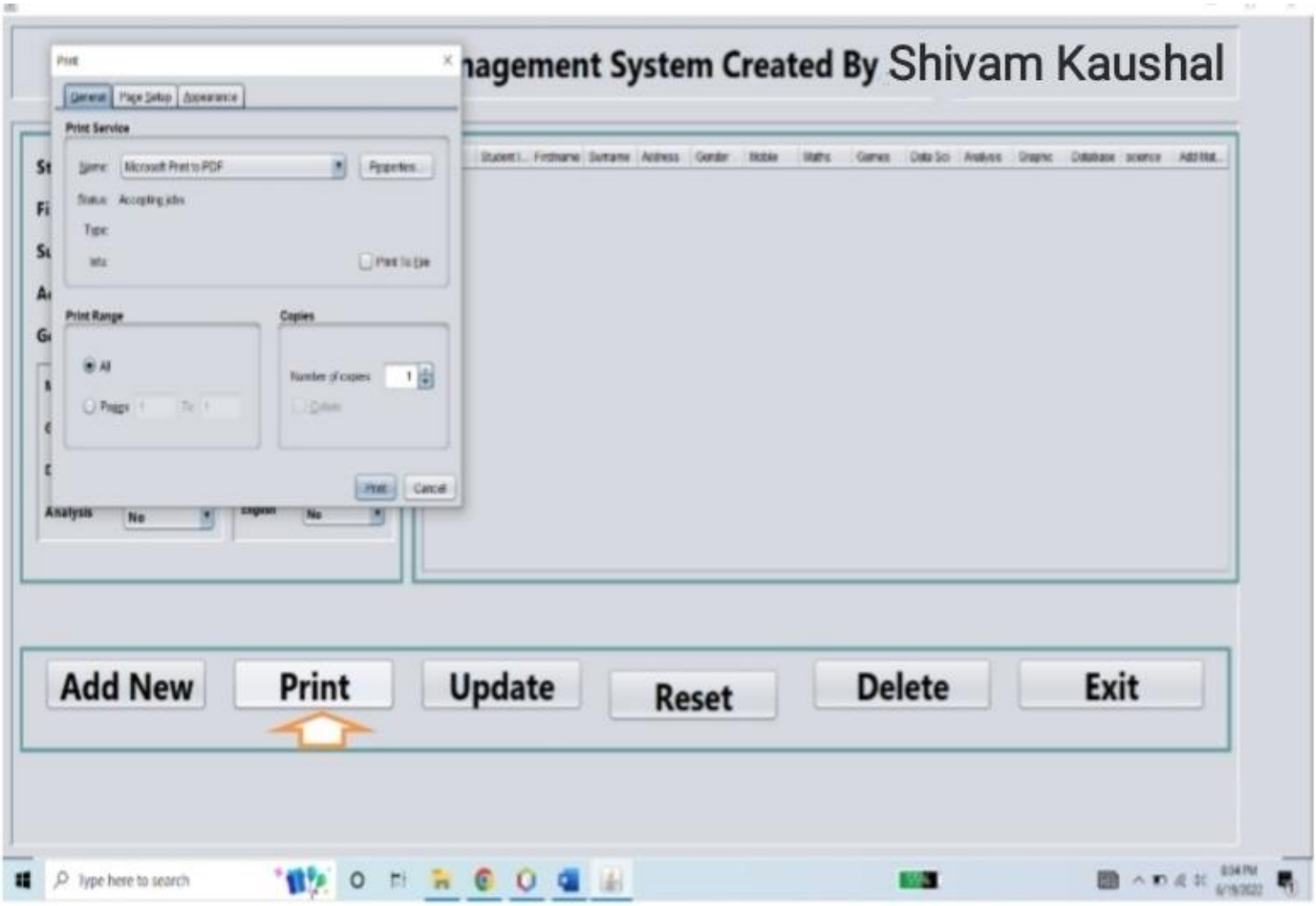
SAVE DATA


Student Database Management Systems
Student ID 75844
Firstname Fatin
Surname Johnny
Address 37 Little Venice Road London
Gender Female
Mobile 798689895
Maths Core Unit
Games Core Unit
Data Sci No
Analysis Complete
Graphic Core Unit
Database Complete
Science Core Unit
English No
ID Studen... Firstna... Surna... Address Gender Mobile Maths Games Data Sci Analysis Graphic Datab... Science English
3 78695 Sally Southe... 27 Hillt... Female 08677... Yes Yes Core U... Compl... Core U... No Core U... Compl...
Print
Update
Reset
Delete
Exit

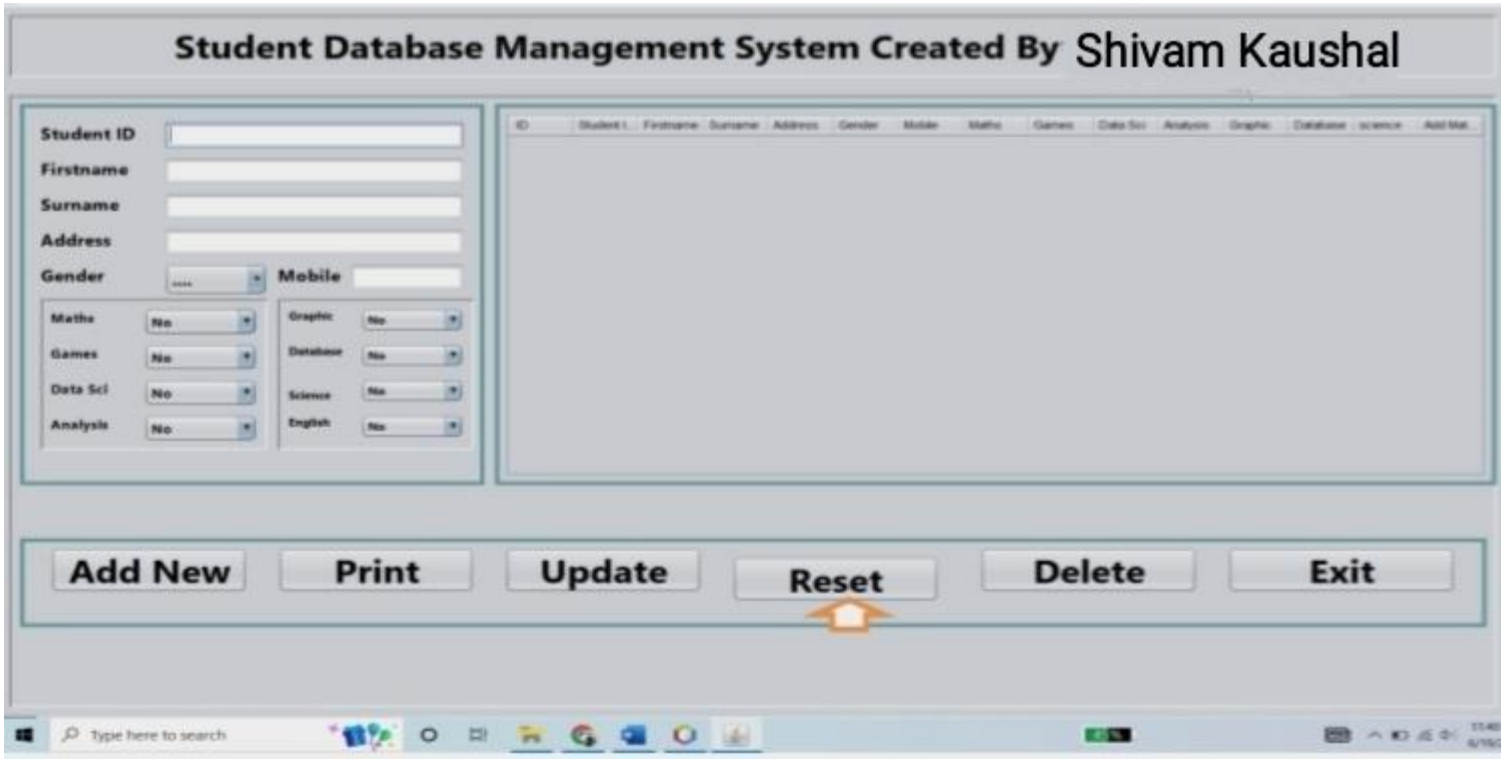
EXIT


Student Database Management System Created By Shivam kaushal
Student ID
Firstname
Surname
Address
Gender
Mobile
Maths
Games
Data Sci
Analysis
Graphic
Database
Science
English
Add New
Print
Update
Reset
Delete
Exit

PRINT

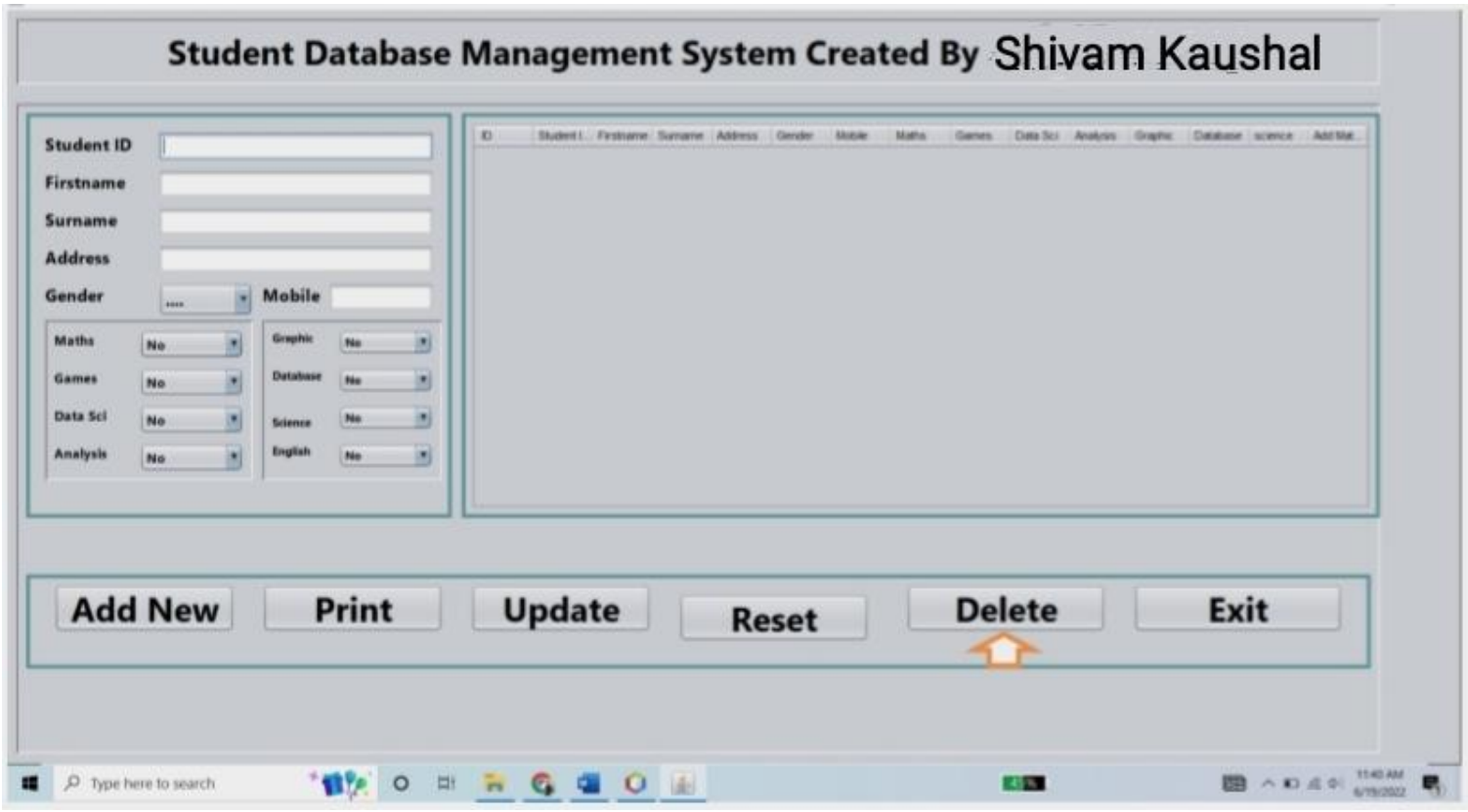

nagement System Created By Shivam Kaushal
Print
General
Page Setup
Appearance
Print Service
Microsoft Print to PDF
Properties
Status: Accepting jobs
Type:
Where:
Print to file
Print Range
All
Pages
Copies
Number of copies
Collate
Print
Cancel
Analysis
No
No
Add New
Print
Update
Reset
Delete
Exit
Type here to search

RESET


Student Database Management System Created By Shivam Kaushal
Student ID
Firstname
Surname
Address
Gender
Mobile
Maths
Games
Data Sci
Analysis
Graphic
Database
Science
English
Add New
Print
Update
Reset
Delete
Exit
Type here to search

DELETE


Student Database Management Systems
Student ID
75844
Firstname
Fatin
Surname
Johnny
Address
37 Little Venice Road London
Gender
Female
Mobile
798689895
Maths
Core Unit
Games
Core Unit
Data Sci
No
Analysis
Complete
Graphic
Core Unit
Database
Complete
Science
Core Unit
English
No
ID
Studen...
Firstna...
Surna...
Address
Gender
Mobile
Maths
Games
Data Sci
Analysis
Graphic
Datab...
Science
English
3
78695
Sally
Southe...
27 Hillt...
Female
08677...
Yes
Yes
Core U...
Compl...
Core U...
No
Core U...
Compl...
Add New
Print
Update
Reset
Delete
Exit


Student Database Management System Created By Shivam Kaushal
Student ID
Firstname
Surname
Address
Gender
Mobile
Maths
Games
Data Sci
Analysis
Graphic
Database
Science
English
No
Add New
Print
Update
Reset
Delete
Exit
Type here to search

CODING

```
/*
 * Click
nbfs://nbhost/SystemFileSystem/Templates
/Licenses/license-default.txt to
change thislicense
 * Click nbfs://nbhost/SystemFileSystem/
Templates/GUIForms/JFrame.java to edit this
template
 */
package StudentDBMysql;

import
com.mysql.cj.jdbc.result.ResultSetMeta
Data;import javax.swing.JFrame;
import javax.swing.JOptionPane;

import java.sql.Connection;
import
java.sql.PreparedStatement;
import java.sql.ResultSet;
import javax.swing.JTable;
```

```
import javax.swing.table.DefaultTableModel;
```

```
import java.text.DateFormat;
import java.text.MessageFormat;
import
java.text.SimpleDateFormat;
import java.util.Vector;
import
java.util.logging.Level;
import
java.util.logging.Logger;

/**
 *
 * @author viren
 */
public class StudentDBMysql
extendsjavax.swing.JFrame {

    private static final
Stringusername="root";
    private static final
String
password="CkerryCCC"
```

```
;
    private static final String
dataConn="jdbc:mysql://localhost:3306/stu
d entdata";
```

```
Connection sqlConn = null;
   PreparedStatement pst
   =null;ResultSet rs =null;


   /**
    * Creates new form StudentDBMysql
    */
   public
      StudentDBMysql() {
      initComponents();
      updateDB();
   }

   /**
    * This method is called from within the
constructor to initialize the form.
    * WARNING: Do NOT modify this code. The
content of this method is always
    * regenerated by the Form Editor.
    */
```

```
@SuppressWarnings("unchecked")

   public void updateDB()
   {
      int
   q,i;try
      {

Class.forName("com.mysql.jdbc.Drive
         r");sqlConn =
DriverManager.getConnection(dataConn,use
rname,password);
         pst =
sqlConn.prepareStatement("select *frome
studentdata");
         rs =pst.executeQuery();
         ResultSetMetaData StData
         =
(ResultSetMetaData)
         rs.getMetaData();q =
         StData.getColumnCount();

         DefaultTableModel
RecordTable =
```

```
(DefaultTableModel)jTable1.getModel
();
        RecordTable.setRowCount(0);
```

```
        while
    (rs.next()){
            Vector columnData = new Vector();

            for(i = 1; i <= q; i++)
            {
              columnData.add(rs.getString("id

"));

columnData.add(rs.getString("studentid"))

;

columnData.add(rs.getString("firstname"))

;

columnData.add(rs.getString("surname"));

columnData.add(rs.getString("address"));

columnData.add(rs.getString("gender"));
```

```
columnData.add(rs.getString("mobile"));

columnData.add(rs.getString("maths"));

columnData.add(rs.getString("games"));

columnData.add(rs.getString("datasci"));
```

```
columnData.add(rs.getString("analysis"));

columnData.add(rs.getString("igraphic"));

columnData.add(rs.getString("database1"));

columnData.add(rs.getString("science"));

columnData.add(rs.getString("english"));
            }

RecordTable.addRow(columnData);

          }
      }
        catch (Exception ex) {

JOptionPane.showMessageDialog(null,
ex);
      }
}
```

```
    private void
btnUpdateActionPerformed(java.awt.event.Actio
nEvent evt) {

        DefaultTableModel RecordTable =
(DefaultTableModel)jTable1.getModel();
        int SelectedRows =
         jTable1.getSelectedRow();try
         {
            int id =
Integer.parseInt(RecordTable.getValueAt(Selec
tedRows, 0).toString());
            Class.forName("com.mysql.jdbc.Drive
            r");sqlConn =
DriverManager.getConnection(dataConn,usernam
me,password);
            pst = sqlConn.prepareStatement("update
studentdata set studentid
=?,firstname=?surname=?"

+"address=?,gender=?,mobile=?,maths=?,data
sci=?,analysis=?,graphic=?,"

+"database1=?,science=?,english=?,where id
=?");
```

```
pst.setString(1, txtStudentID.getText());
        pst.setString(2, txtFirstname.getText());
        pst.setString(3, txtSurname.getText());
        pst.setString(4, txtAddress.getText());
        pst.setString(5,
        (String)cboGender.getSelectedItem());
        pst.setString(6, txtMobile.getText());
        pst.setString(7,
        (String)cboMaths.getSelectedItem());
        pst.setString(8,
        (String)cboGames.getSelectedItem());
        pst.setString(9,
        (String)cboDataSci.getSelectedItem());
        pst.setString(10,
        (String)cboAnalysis.getSelectedItem());
        pst.setString(11,
        (String)cboGraphic.getSelectedItem());
        pst.setString(12,
        (String)cboDatabase.getSelectedItem());
        pst.setString(13,
        (String)cboScience.getSelectedItem());
        pst.setString(14,
        (String)cboEnglish.getSelectedItem());
```

```
pst.setInt(15,id);
            pst.executeUpdate();

JOptionPane.showMessageDialog(this,"
            Student Record updated");
            updateDB();
        }
        catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Student
DBMysql.class.getName()).
log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (java.:
sql.SQLException ex) {

Logger.getLogger(StudentDBMysql.class.ge
tName()).log(Level.SEVERE, null, ex);
        // TODO add your handling code here:

        }
// TODO add your handling code here:

} }
```

```
private void
cboGraphicActionPerformed(java.awt.event
. ActionEvent evt) {
        // TODO add your handling code
        here:
    }
    private JFrame
    frame;private void
btnExitActionPerformed(java.awt.event.Acti
onEvent evt) {
        // TODO add your handling code
        here:frame = new JFrame("Exit");

if(JOptionPane.showConfirmDialog(frame
,"
Confirm if
you want to exit","Student
ManagementSystems By Pramendra
Singh",

JOptionPane.YES_NO_OPTION)==JOption
Pane.YES_NO_OPTION){
```

```
            System.exit(0);
}
}
```

```
        private void
btnAddNewActionPerformed(java.awt.event
. ActionEvent evt) {

        try
        {

Class.forName("com.mysql.jdbc.Driver");
            sqlConn =
DriverManager.getConnection(dataConn,us
e rname,password);
            pst =
sqlConn.prepareStatement("insert
intostudentdata(
studentid,firstname,surname,addre
ss,"
            +
"gender,mobile,maths,games,datasci,analy
sis,
graphic,database1,science,english)values
"
            + "(?,?,?,?,?,?,?,?,?,?,?,?,?,?)");
```

```
pst.setString(1, txtStudentID.getText());
        pst.setString(2,
        txtFirstname.getText());
        pst.setString(3,
        txtSurname.getText());
        pst.setString(4,
        txtAddress.getText());
        pst.setString(5,
        (String)cboGender.getSelectedItem());
        pst.setString(6, txtMobile.getText());
        pst.setString(7,
        (String)cboMaths.getSelectedItem());
        pst.setString(8,
        (String)cboGames.getSelectedItem());
        pst.setString(9,
        (String)cboDataSci.getSelectedItem());
        pst.setString(10,
        (String)cboAnalysis.getSelectedItem());
        pst.setString(11,
        (String)cboGraphic.getSelectedItem());
        pst.setString(12,
        (String)cboDatabase.getSelectedItem());
        pst.setString(13,
        (String)cboScience.getSelectedItem());
        pst.setString(14,
        (String)cboEnglish.getSelectedItem());

        pst.executeUpdate();
```

```
JOptionPane.showMessageDialog(this,"St
udentRecord Added");
            updateDB();
        }
        catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(StudentD
BM
ysql.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (java.sql.SQLException ex) {

Logger.getLogger(StudentDBMysql.class.
getName()).log(Level.SEVERE, null, ex);
        // TODO add your handling code here:

        }



        // TODO add your handling code here:
    }
```

```
  private void
jTable1MouseClicked(java.awt.event.MouseEvent
evt) {

      DefaultTableModel RecordTable =
(DefaultTableModel)jTable1.getModel();
      int SelectedRows = jTable1.getSelectedRow();

txtStudentID.setText(RecordTable.getValueAt(Selected
Ro ws,1).toString());

txtFirstname.setText(RecordTable.getValueAt(Selected
Ro ws,2).toString());

txtSurname.setText(RecordTable.getValueAt(SelectedR
o ws,3).toString());

txtAddress.setText(RecordTable.getValueAt(SelectedRo
w s,4).toString());

cboGender.setSelectedItem(RecordTable.getValueAt(Se
le ctedRows,5).toString());

txtMobile.setText(RecordTable.getValueAt(SelectedRow
s, 6).toString());
```

```
cboMaths.setSelectedItem(RecordTable.getVal
ueAt(SelectedRows,7).toString());

cboGames.setSelectedItem(RecordTable.getVal
ueAt(SelectedRows,8).toString());

cboDataSci.setSelectedItem(RecordTable.getVa
lueAt(SelectedRows,9).toString());

cboAnalysis.setSelectedItem(RecordTable.getV
alueAt(SelectedRows,10).toString());

cboGraphic.setSelectedItem(RecordTable.getVal
ueAt(SelectedRows,11).toString());

cboDatabase.setSelectedItem(RecordTable.get
ValueAt(SelectedRows,12).toString());

cboScience.setSelectedItem(RecordTable.getVa
lueAt(SelectedRows,13).toString());

cboEnglish.setSelectedItem(RecordTable.getV
alueAt(SelectedRows,14).toString());
   }
```

```
private void
btnPrintActionPerformed(java.awt.event.Acti onEvent evt) {
      MessageFormat header = new
MessageFormat("Printing in
Progress");
      MessageFormat footer = new
MessageFormat("Page (0,
number,integer)");
      try
      {

jTable1.print(JTable.PrintMode.NORMAL,h
eader,footer);
      }
      catch(java.awt.print.PrinterException
      e)
      {
         System.err.format("No Printer
found",e.getMessage());
      }
   }
```

```
private void
btnResetActionPerformed(java.awt.event.A
ctionEvent evt) {

        txtStudentID.setText("");
        txtFirstname.setText("");
        txtSurname.setText("");
        txtAddress.setText("");
        cboGender.setSelectedIndex(
        0); txtMobile.setText("");
        cboMaths.setSelectedIndex(0)
        ;
        cboGames.setSelectedIndex(
        0);
        cboDataSci.setSelectedIndex(
        0);
        cboAnalysis.setSelectedIndex
        (0);
        cboGraphic.setSelectedIndex(
        0);
        cboDatabase.setSelectedInde
        x(0);
        cboScience.setSelectedIndex(
        0);
```

```
        cboEnglish.setSelectedIndex(
        0);

}
```

```
 private                                                    void
btnDeleteActionPerformed(java.awt.event.ActionEv
ent evt) {
       // TODO add your handling code here:
        DefaultTableModel          RecordTable          =
(DefaultTableModel)jTable1.getModel();
      int SelectedRows =
       jTable1.getSelectedRow();try
       {
          int                          id                          =
Integer.parseInt(RecordTable.getValueAt(SelectedR
ows, 0).toString());
          int                      deleteItem                  =
JOptionPane.showConfirmDialog(null,"confirm      if
youwant to delete item",

"Warning",JOptionPane.YES_NO_OPTION);
           int deleteitem = 0;
            if (deleteitem ==JOptionPane.YES_OPTION)
            {
```

```
 private void btnDeleteActionPerformed(java.awt.event.ActionEvent evt) {
       // TODO add your handling code here:
        DefaultTableModel RecordTable = (DefaultTableModel)jTable1.getModel();
      int SelectedRows = 
       jTable1.getSelectedRow();try
       {
          int id = Integer.parseInt(RecordTable.getValueAt(SelectedRows, 0).toString());
          int deleteItem = JOptionPane.showConfirmDialog(null,"confirm if you want to delete item",
                "Warning",JOptionPane.YES_NO_OPTION
           );int deleteitem = 0;
            if (deleteitem ==JOptionPane.YES_OPTION)
            {
```

```
catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Stude
ntD
BMysql.class.getName()).log(java.util.loggin
g. Level.SEVERE, null, ex);
        } catch (java.sql.SQLException ex) {

Logger.getLogger(StudentDBMysql.class.g
et Name()).log(Level.SEVERE, null, ex);
        // TODO add your handling code
        here:


        }
```

```
 /**
    * @param args the command line arguments
    */
   public static void main(String args[]) {
       /* Set the Nimbus look and feel */
       //<editor-fold  defaultstate="collapsed"  desc="  Look
and feel setting code (optional) ">
       /* If Nimbus (introduced in Java SE 6) is not available,
staywith the default look and feel.
        *                  For                  details
                           see
http://download.oracle.com/javase/tutorial/uiswing/looka
ndfeel/ plaf.html
        */
       try {
       for  (javax.swing.UIManager.LookAndFeelInfo  info  :
javax.swing.UIManager.getInstalledLookAndFeels()) {
               if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassNa
                   me());break;
```

```
}
```

```
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(StudentDBMysql.class.
getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(StudentDBMysql.class.
getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(StudentDBMysql.class.
getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }   catch
            (javax.swing.UnsupportedLookAndFeelException
ex) {

java.util.logging.Logger.getLogger(StudentDBMysql.class.
getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
```

/* Create and display the form */

```
    java.awt.EventQueue.invokeLater(new
        Runnable() {public void run() {
            new StudentDBMysql().setVisible(true);
        }
    };
}

// Variables declaration - do not
modify private javax.swing.JButton
btnAddNew;private
javax.swing.JButton btnDelete;
private javax.swing.JButton btnExit;
private javax.swing.JButton btnPrint;
private javax.swing.JButton
btnReset; private
javax.swing.JButton btnUpdate;
private javax.swing.JComboBox<String>
cboAnalysis; private
javax.swing.JComboBox<String> cboDataSci;
private javax.swing.JComboBox<String>
cboDatabase;private
javax.swing.JComboBox<String> cboEnglish;
```

```
private javax.swing.JComboBox<String>
cboGames; private
javax.swing.JComboBox<String> cboGender;
private javax.swing.JComboBox<String>
cboGraphic; private
javax.swing.JComboBox<String> cboMaths;
```

```
 private javax.swing.JComboBox<String> cboScience;
private javax.swing.JComboBox<String>
jComboBox2; private
javax.swing.JComboBox<String> jComboBox4;
private javax.swing.JLabel jLabel1;
 private javax.swing.JLabel
 jLabel10;private
 javax.swing.JLabel jLabel11;
 private javax.swing.JLabel
 jLabel12;private
 javax.swing.JLabel jLabel13;
 private javax.swing.JLabel
 jLabel14;private
 javax.swing.JLabel jLabel15;
 private javax.swing.JLabel
 jLabel16;private
 javax.swing.JLabel jLabel17;
 private javax.swing.JLabel
 jLabel2; private
 javax.swing.JLabel jLabel3;
 private javax.swing.JLabel
 jLabel4; private
```

javax.swing.JLabel jLabel5;

private javax.swing.JLabel

jLabel6; private

javax.swing.JLabel jLabel7;

private javax.swing.JLabel

jLabel8; private

javax.swing.JPanel jPanel1;

private javax.swing.JPanel

jPanel2; private

javax.swing.JPanel jPanel3;

```
    private javax.swing.JPanel
  jPanel4;                    private
  javax.swing.JPanel      jPanel5;
  private javax.swing.JPanel
  jPanel6;                    private
  javax.swing.JPanel      jPanel7;
  private javax.swing.JPanel
  jPanel8;
   private javax.swing.JScrollPane
   jScrollPane1;private javax.swing.JTable
   jTable1;
   private javax.swing.JTextField
   txtAddress; private
   javax.swing.JTextField txtFirstname;
   private javax.swing.JTextField txtMobile;
   private javax.swing.JTextField
   txtStudentID;private
   javax.swing.JTextField txtSurname;
   // End of variables declaration
}
```

Thank
you