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ROLL NUMBER : 22ITR025

CLASS : IT - A

PROJECT NAME : EXAM SEATING ARRANGEMENT

```
import java.awt.*;
import java.awt.event.*;
import java.util.ArrayList;
import java.io.*;
import javax.imageio.*;
import java.awt.image.*;
class Exam_Management_System extends WindowAdapter implements
ActionListener , MouseListener
{
 static Frame f=new Frame("Exam Seating Arrangement System");
 static Image icon=Toolkit.getDefaultToolkit().getImage("icon.png");
 static Label l1,l2,roll,name,gender,course,sroll,nofstulabel;
 static TextField t1,t2,roll1,name1,course1,sroll1,ta,nofstufield;
 static Button add_stu,search_stu,submit,reset,ssubmit,sreset,all_stu;
 static Checkbox male,female;
 static CheckboxGroup cbg=new CheckboxGroup();
 static Panel padd,psea,res;
 public static Dialog dialog;
 static String Gender="";
 static TextArea result;
 static ArrayList<String[]> data;
 static int room=1;
 static int total=0;
 static int seat=0;
 static Label gl1,gl2,gl3,gl4,gl5,gl6,gl7,gl8,gl9,gl10,gl11,gl12,gl13,gl14;
 static GridLayout gl=new GridLayout(7,2);
EXAM SEATING ARRANGEMENT SYSTEM
 static Image bg;
 static int addzero=1,totalzero=2,noroll=3,wrongroll=4;
 public Exam_Management_System(){
 padd=new Panel();
 psea=new Panel();
 res=new Panel();
 add_stu=new Button("ADD A STUDENT");
 search_stu=new Button("SEARCH");
 all_stu=new Button("ALL REPORT");
 t1=new TextField();
 l1=new Label();
 roll=new Label("Roll Number : ");
 name=new Label("Name :");
 gender=new Label("Gender : ");
 course=new Label("Course Name : ");
 roll1=new TextField();
 sroll1=new TextField();
 name1=new TextField();
 course1=new TextField();
 male=new Checkbox("Male",cbg,false);
 female=new Checkbox("Female",cbg,false);
 submit=new Button("SUBMIT");
 reset=new Button("RESET");
 result=new TextArea(10,30);
 sroll=new Label("Roll Number");
 ssubmit=new Button("SUBMIT");
 sreset=new Button("RESET");
 nofstulabel=new Label("Total Number Of Students : ");
 nofstufield=new TextField();
 gl1=new Label();
 gl2=new Label();
 gl3=new Label();
 gl4=new Label();
 gl5=new Label();
 gl6=new Label();
 gl7=new Label();
 gl8=new Label();
 gl9=new Label();
 gl10=new Label();
 gl11=new Label();
 gl12=new Label();
 gl13=new Label();
 gl14=new Label();
 add_stu.setBounds(60,260,150,30);
```

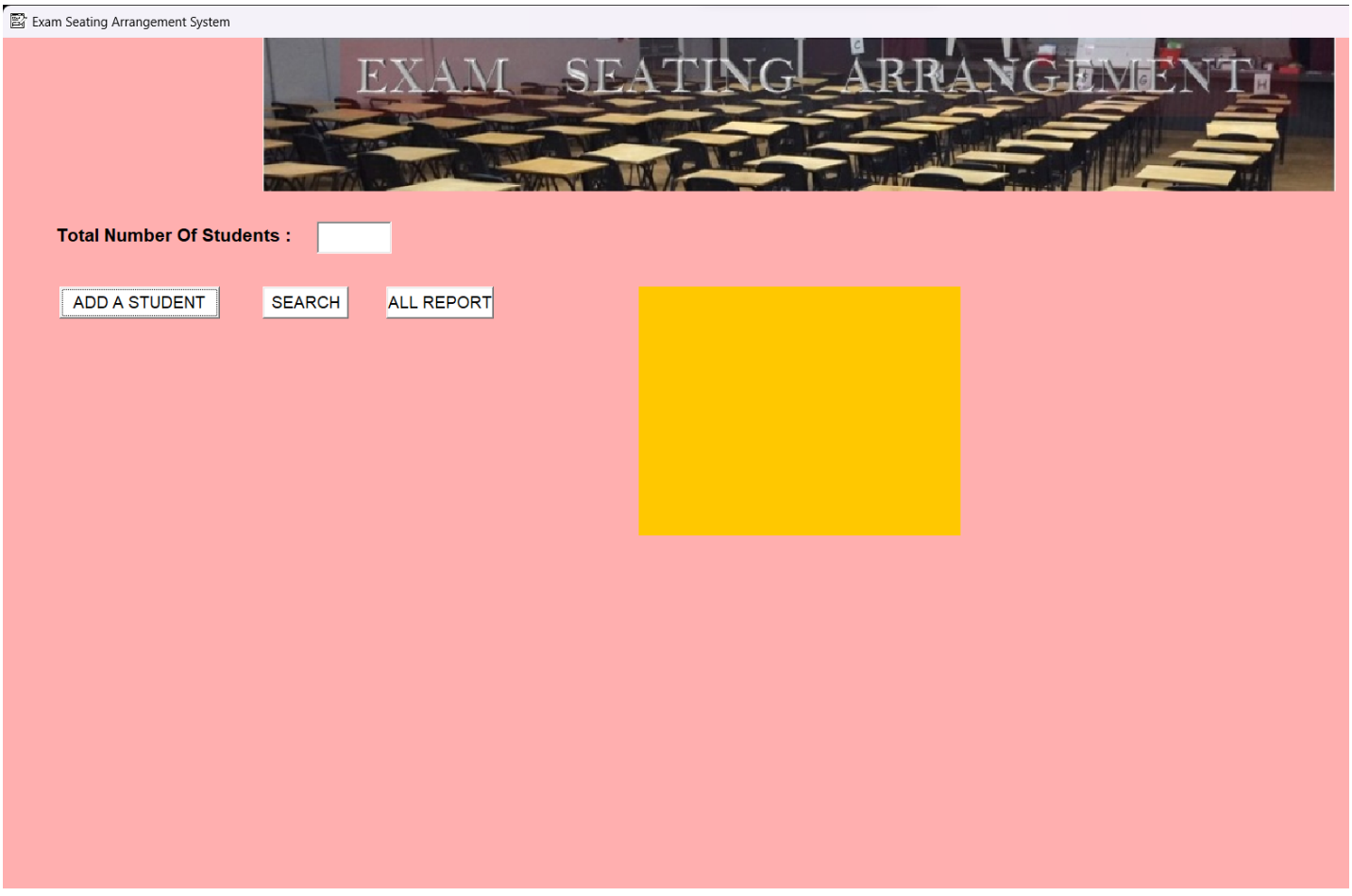
```
roll.setBounds(50,50,100,30);
name.setBounds(50,100,100,30);
gender.setBounds(50,150,100,30);
course.setBounds(50,200,100,30);
reset.setBounds(50,250,100,30);
submit.setBounds(200,250,100,30);
roll1.setBounds(200,50,120,25);
name1.setBounds(200,100,120,25);
male.setBounds(200,150,80,30);
female.setBounds(280,150,80,30);
course1.setBounds(200,200,120,25);
padd.setBounds(70,310,400,400);
search_stu.setBounds(250,260,80,30);
psea.setBounds(70,310,400,200);
sroll.setBounds(50,50,100,30);
sroll1.setBounds(200,50,120,25);
sreset.setBounds(50,100,100,30);
ssubmit.setBounds(200,100,100,30);
all_stu.setBounds(365,260,100,30);
result.setBounds(600,500,400,300);
nofstulabel.setBounds(55,203,220,20);
nofstufield.setBounds(300,200,70,30);
res.setBounds(600,260,300,230);
padd.add(l1);
padd.add(roll);
padd.add(name);
padd.add(gender);
padd.add(course);
padd.add(roll1);
padd.add(name1);
padd.add(male);
padd.add(female);
padd.add(course1);
padd.add(submit);
padd.add(reset);
f.add(res);
res.setLayout(gl);
res.add(gl1);
res.add(gl2);
res.add(gl3);
res.add(gl4);
res.add(gl5);
res.add(gl6);
res.add(gl7);
res.add(gl8);
res.add(gl9);
res.add(gl10);
res.add(gl11);
res.add(gl12);
res.add(gl13);
res.add(gl14);
psea.add(sroll);
psea.add(sroll1);
psea.add(sreset);
psea.add(ssubmit);
add_stu.addActionListener(this);
search_stu.addActionListener(this);
add_stu.addMouseListener(this);
search_stu.addMouseListener(this);
all_stu.addActionListener(this);
all_stu.addMouseListener(this);
f.addWindowListener(this);
reset.addActionListener(this);
nofstufield.setForeground(Color.red);
res.setBackground(Color.orange);
padd.setBackground(Color.gray);
psea.setBackground(Color.gray);
submit.setBackground(Color.blue);
reset.setBackground(Color.red);
ssubmit.setBackground(Color.blue);
sreset.setBackground(Color.red);
submit.setForeground(Color.white);
ssubmit.setForeground(Color.white);
sreset.setForeground(Color.white);
reset.setForeground(Color.white);
result.setBackground(Color.green);
all_stu.setBackground(Color.white);
search_stu.setBackground(Color.white);
```

```
 add_stu.setBackground(Color.white);
 f.setBackground(Color.pink);
 result.setEditable(false);
 f.setFont(new Font("Arial", Font.PLAIN, 15)); //font frame
 res.setFont(new Font("Arial", Font.BOLD, 20)); //font res
 nofstulabel.setFont(new Font("Arial", Font.BOLD, 17)); //font total
 nofstufield.setFont(new Font("Arial", Font.BOLD, 20)); //font box
 reset.addActionListener(new ActionListener(){
 public void actionPerformed(ActionEvent e){
 roll1.setText("");
 name1.setText("");
 course1.setText("");
 }
 });
 sreset.addActionListener(new ActionListener(){
 public void actionPerformed(ActionEvent e){
 sroll1.setText("");
 }
 });
 ssubmit.addActionListener(new ActionListener() {
 public void actionPerformed(ActionEvent e) {
 String rol = sroll1.getText();
 int tot=Integer.valueOf(nofstufield.getText());
 if(tot==0){
 check(2);
 }
 if(Integer.valueOf(rol)==0){showdialog(f,"Enter roll number","No
roll number");}
 if(rol!=null){
 System.out.println("Roll Number = "+rol+" Searched.");
 searchStu(rol);
 }
 sroll1.setText("");
 }
 });
 data=new ArrayList<String[]>();
 submit.addActionListener(new ActionListener() {
 public void actionPerformed(ActionEvent e) {
 String n1 = name1.getText();
 String r1 = roll1.getText();
 String c1 = course1.getText();
 boolean b=male.getState()||female.getState();
 String g1 = b?"Male":"Female";
 String[] student = {n1,r1,g1,c1};
 data.add(student);
 System.out.println("Name: " + n1);
 System.out.println("Roll Number: " + r1);
 System.out.println("Course: " + c1);
 System.out.println("Gender: " + g1);
 System.out.println("Data stored.");
 if(n1.length()!=0&&r1.length()!=0&&c1.length()!=0&&b!=false)
 {
 showdialog(f,"Data Stored With Roll Number "+r1,"Done");
 }
 else
 {
 showdialog(f,"Please Fill out all the details.","FILL DETAILS");
 }
 name1.setText("");
 roll1.setText("");
 course1.setText("");
 }});
}
public static void showdialog(Frame owner,String s,String ti) {
 dialog = new Dialog(owner,ti, true);
 dialog.setLayout(new FlowLayout());
 Label label = new Label(s);
 Button close = new Button("OK");
 dialog.setLocation(500,300);
 label.setFont(new Font("Arial",Font.BOLD,20));
 close.setFont(new Font("Arial",Font.BOLD,20));
 close.setBounds(250,150,80,20);
 dialog.setLayout(new FlowLayout());
 close.addActionListener(new ActionListener() {
 public void actionPerformed(ActionEvent e) {
 dialog.dispose();
 }});
 dialog.add(label);
```

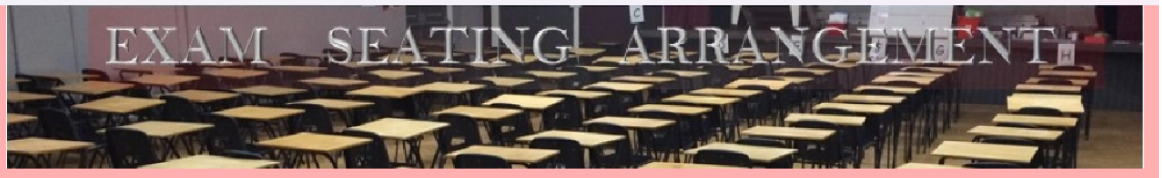
```
 dialog.add(close);
 dialog.setSize(500, 150);
 dialog.setVisible(true);
 dialog.setFont(new Font("Arial",Font.BOLD,20));
}
//Switch case for dialog//addzero=1,totalzero=2,noroll=3,wrongroll=4
public void check(int x)
{
 switch(x){
 case 1:
showdialog(f,"Add Student Details to see Report.","Report Error");
break;
 case 2:
showdialog(f,"Please Enter Total Students in a Room.","Total Error");
break;
 case 3:
showdialog(f,"Enter Roll number to search.","  Empty Roll Number");
break;
 case 4:
showdialog(f,"Enter Correct Roll Number.","Wrong Roll Number");
break;
 }
}
public void actionPerformed(ActionEvent e){
 if(e.getSource()==add_stu){
 f.remove(psea);
 f.add(padd);
 padd.setVisible(true);
 }
 if(e.getSource()==search_stu){
 f.remove(padd);
 padd.setVisible(false);
 f.add(psea);
 }
 if(e.getSource()==all_stu){
 int c=0;
 result.setText("");
 for(String[] student : data){c++;}
 if(c==0){
 check(1);
 }
 else{
 f.add(result);
 for(String[] student : data){
 total=Integer.valueOf(nofstufield.getText());
 int ro=Integer.valueOf(student[1]);
 room = (ro - 1) / total + 1;
 seat = (ro - 1) % total + 1;
 result.append("Room Number : "+room+"\n");
 result.append("Seat Number : "+seat+"\n");
 result.append("Roll Number : " + student[1] + "\n");
 result.append("Name\t\t : " + student[0] + "\n");
 result.append("Gender\t : " + student[2] + "\n");
 result.append("Course\t : " + student[3] + "\n\n");
 } }}}
 void searchStu(String rollNumber) {
 result.setText("");
 int c=0;
 boolean found = false;
 int ro=Integer.valueOf(rollNumber);
 total=Integer.valueOf(nofstufield.getText());
 if(total==0){
 check(2);
 }
 else if(ro==0){
 check(3);
 }
 for (String[] student : data) {
 ro=Integer.valueOf(student[1]);
 if (student[1].equals(rollNumber)) {
 total=Integer.valueOf(nofstufield.getText());
 room = (ro - 1) / total + 1;
 seat = (ro - 1) % total + 1;
 gl1.setText(" STUDENT");
 gl2.setText(" DETAILS");
 gl3.setText(" Room Number");
 gl4.setText(String.valueOf(" "+room));
 gl5.setText(" Seat Number");
```

```
gl6.setText(" "+String.valueOf(seat));
gl7.setText(" Roll Number");
gl8.setText(" "+student[1]);
gl9.setText(" Name");
gl10.setText(" "+student[0]);
gl11.setText(" Gender");
gl12.setText(" "+student[2]);
gl13.setText(" Course");
gl14.setText(" "+student[3]);
found = true;
}
}
if(found==false) {
check(4);
}
}
public void mouseClicked(MouseEvent e) {
if(e.getSource()==add_stu){
add_stu.setBackground(Color.orange);
search_stu.setBackground(Color.white);
all_stu.setBackground(Color.white);
}
if(e.getSource()==search_stu){
search_stu.setBackground(Color.orange);
add_stu.setBackground(Color.white);
all_stu.setBackground(Color.white);
}
if(e.getSource()==all_stu){
search_stu.setBackground(Color.white);
add_stu.setBackground(Color.white);
all_stu.setBackground(Color.orange);
}
}
public void mouseEntered(MouseEvent e) {}
public void mouseExited(MouseEvent e) {}
public void mousePressed(MouseEvent e) {}
public void mouseReleased(MouseEvent e) {}
public void windowClosing (WindowEvent e) {
f.dispose();
}
public static void main(String args[]){
new Exam_Management_System();
f.setIconImage(icon);
f.add(add_stu);
f.add(search_stu);
f.add(all_stu);
f.add(nofstulabel);
f.add(nofstufield);
f.setSize(1700,950);
f.setLayout(null);
f.setLocationRelativeTo(null);
f.setVisible(true);
Canvas bg=new Canvas(){
public void paint(Graphics g)
{
try {
BufferedImage img=ImageIO.read(new File("hal.jpg"));
g.drawImage(img,0,0,this);
}
catch(IOException e) {
e.printStackTrace();
}
} };
bg.setBounds(250,0,1500,172);
f.add(bg);
}
}
```

OUTPUT OF THE CODE



Exam Seating Arrangement System



Total Number Of Students : 20

ADD A STUDENT | SEARCH | ALL REPORT

Roll Number : 25

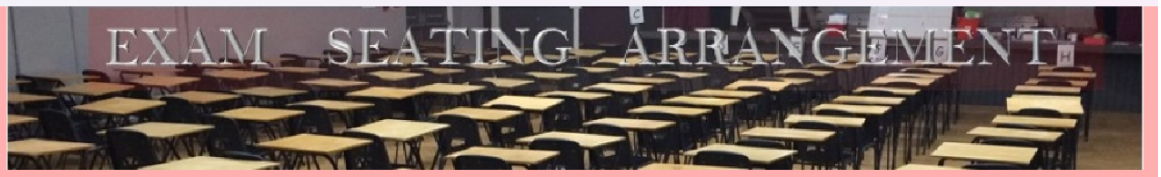
Name : GIRIDHARAN

Gender : (•) Male ( ) Female

Course Name IT

RESET | SUBMIT

Exam Seating Arrangement System



Total Number Of Students : 20

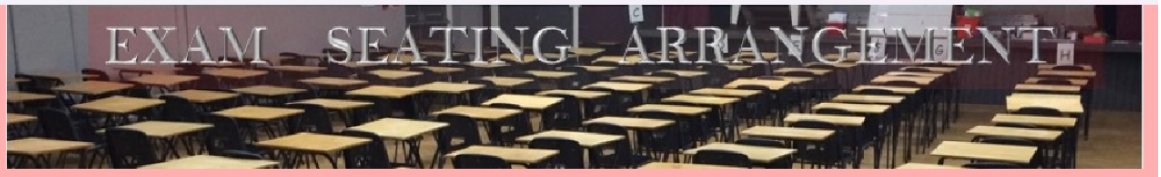
ADD A STUDENT | SEARCH | ALL REPORT

Roll Number 25

RESET | SUBMIT

STUDENT	DETAILS
Room Number	2
Seat Number	5
Roll Number	25
Name	GIRIDHARAN
Gender	Male
Course	IT

Exam Seating Arrangement System



Total Number Of Students : 20

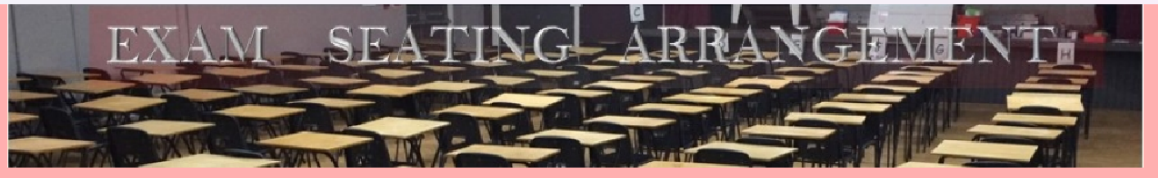
ADD A STUDENT | SEARCH | ALL REPORT

Roll Number 68

RESET | SUBMIT

STUDENT	DETAILS
Room Number	4
Seat Number	8
Roll Number	68
Name	ELAKIYA
Gender	Male
Course	CSE

Exam Seating Arrangement System



Total Number Of Students : 20

ADD A STUDENT | SEARCH | ALL REPORT

Roll Number

RESET | SUBMIT

STUDENT	DETAILS
Room Number	2
Seat Number	5
Roll Number	25
Name	GIRIDHARAN
Gender	Male
Course	IT

```
Room Number  :  2
Seat Number  :  5
Roll Number  :  25
Name         :  GIRIDHARAN
Gender       :  Male
Course       :  IT

Room Number  :  4
Seat Number  :  8
Roll Number  :  68
Name         :  ELAKIYA
Gender       :  Male
Course       :  CSE
```