JAVA PROJECT REPORT

(Project Term January-May 2023)

TITLE: - THE JAVA QUIZWIZ-RACE AGAINST THE CLOCK

Submitted by

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DECLARATION

We hereby declare that the project work entitled ("THE JAVA QUIZWIZ-RACE AGAINT THE CLOCK") is an authentic record of our own work carried out as requirements of Capstone Project for the award of BTech degree in CSE from Lovely Professional University, Phagwara, under the guidance of (Dr. Ranjith Kumar). All the information furnished in this capstone project report is based on our own intensive work and is genuine.

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Date: April 21, 2023

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Online Examination System An online examination system is a digital platform that allows educational institutions or organizations to conduct exams and assessments over the internet. This system eliminates the need for traditional paper-based exams, making the entire process more efficient, secure, and convenient for both the examiners and the examinees.

Online examination systems usually come with a wide range of features that enable exam administrators to create, manage, and conduct exams in a variety of formats, such as multiple-choice questions, essay questions, and more. The system also allows for the easy creation and management of exam schedules, grading and reporting of results, and the generation of certificates.

1. INTRODUCTION

One of the primary benefits of an online examination system is that it provides greater flexibility and accessibility to students. They can take exams from anywhere, at any time, using any internet-enabled device. This not only reduces the need for travel but also makes the process more convenient for students with different schedules and time zones. Online examination systems also offer enhanced security features, such as anti-cheating mechanisms, to ensure the integrity of exams. Additionally, grading and reporting of results are automated, reducing the burden on examiners and increasing accuracy. Overall, an online examination system is a powerful tool that can transform the way exams are administered. It provides exam administrators with greater control, flexibility, and efficiency, while also offering students a more convenient and accessible way to take exams.

What is the importance of online examination system in India?

Quick Result Processing

This not only saves time, but also reduces the risk of human error. In contrast, paper-based exams require a lot of steps to be taken in order to evaluate the results. The answer sheets must first be collected and then graded by a team of evaluators, which can take a significant amount of time.

Advantages of online written exams: -

- Accessibility and convenience.
- Time and travel savings.
- Cost reduction.
- Simultaneous evaluation of large groups of students.
- Immediate Grades.
- More objective results.
- Improved technological skills.
- Making tests more dynamic.

Online Quiz Examination System is a Multiple-Choice Questions (MCQ) based examination system. It provides an easy-to-use environment for both Test Conductors and Students appearing for Examination. The main objective of Online Quiz Examination System is to provide all the features that an Examination System must have, with the "interfaces that don't Scare its Users!"

2. SCOPE OF THE PROJECT

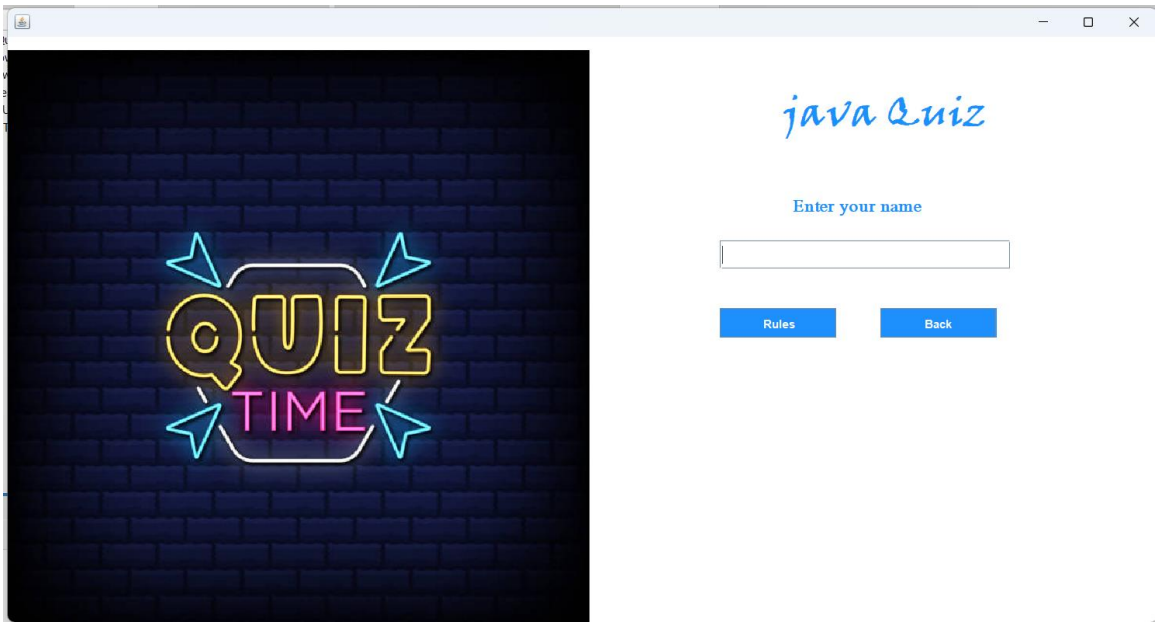
The objectives of online examination system or rather any other exam (purpose of online examination system) is to make sure that the student is thoroughly ware of the course curriculum and that the exam reflects the course content he/she has studied. The purpose of the online examination system is to test the subject knowledge of the students. Such a system eliminates logistical hassles and drawbacks in the traditional mode of the pen-and-paper examination. Students don't have to assemble in the classroom to give the exam.

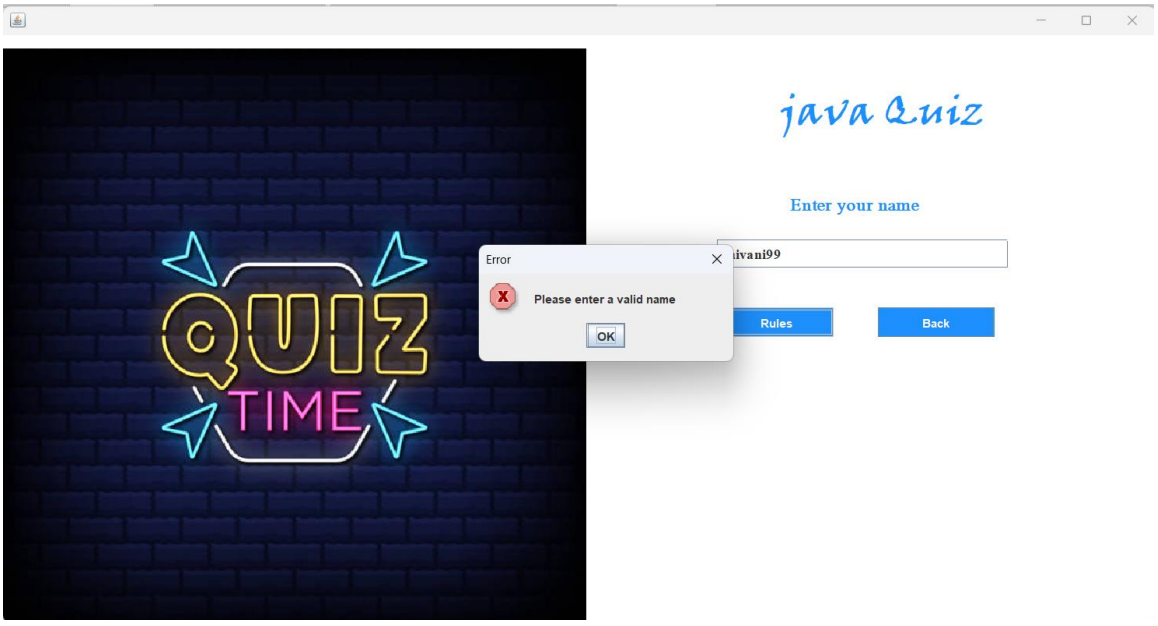
In a classroom where everyone taught together, many students find it difficult to follow the lessons. This is a serious disadvantage of traditional education. When they learn online, everyone can learn at their suitable pace. Students can clarify their doubts by live chats or forums as well.

- The main purpose of the system is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves a lot of time but also gives fast results and saves paper.
- It is a cost-effective and popular means of mass- evaluation system.
- The faculty prepares the tests and questions for each exam.
- The candidates can login through the client computers with
- their roll number given to them and can take the exam.
- The questions are shuffled in a random order so that possibilities for
- getting questions in the same order for the students who are besides,
- is very less.

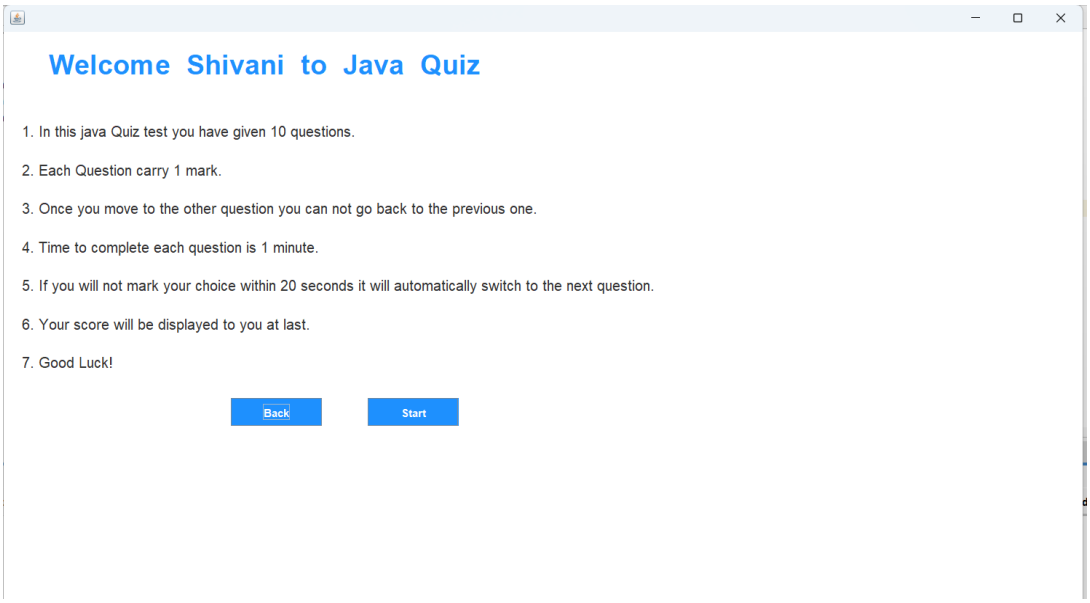
3. MODULES

Module 1

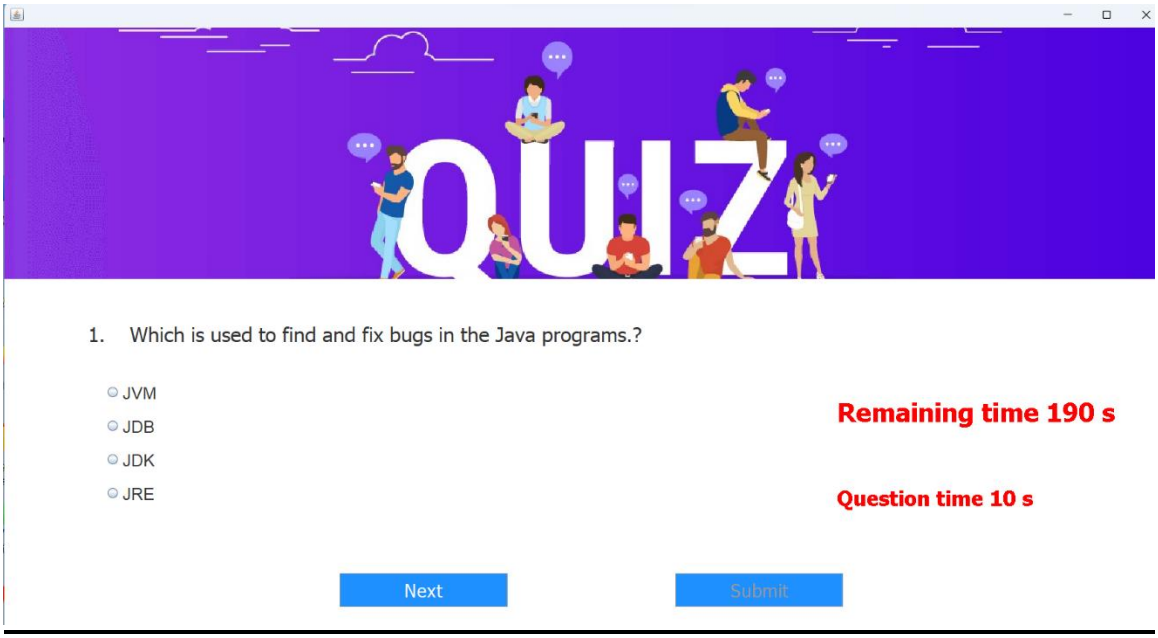




Module 2



Module 3



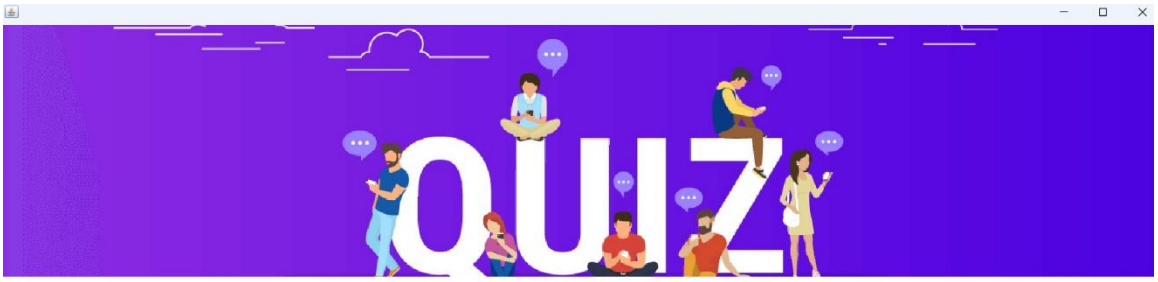
2. What is the return type of the hashCode() method in the Object class?

- int
- Object
- long
- void

Remaining time 173 s

Question time 14 s

Next Submit



3. Which package contains the Random class?

- java.util package
- java.lang package
- java.awt package
- java.io package

Remaining time 144 s

Question time 6 s

Next Submit

4. An interface with no fields or methods is known as?

- Runnable Interface
- Abstract Interface
- Marker Interface
- CharSequence Interface

Remaining time 129 s

Question time 12 s

Next Submit

6. Which of the following is a marker interface?

- Runnable interface
- Remote interface
- Readable interface
- Result interface

Remaining time 78 s

Question time 3 s

Next Submit

7. Which keyword is used for accessing the features of a package?

- import
- package
- extends
- export

Remaining time 54 s

Times up!!

Next Submit

9. Which of the following is a mutable class in java?

- java.lang.StringBuilder
- java.lang.Short
- java.lang.Byte
- java.lang.String

Remaining time 22 s

Question time 10 s

Next Submit

10. Which of the following option leads to the portability and security of Java?

- Bytecode is executed by JVM
- The applet makes the Java code secure and portable
- Use of exception handling
- Dynamic binding between objects

Remaining time 154 s

Question time 11 s

Next Submit

Thankyou for playing java Quiz

Your score is 100

Play Again Exit

(MAIN CONVERSION MODULE)

4. SAMPLE CODES

```
//import java.awt.Color;
package quiz;
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
import java.util.regex.Pattern;
import quiz.Rules;

public class Login extends JFrame implements ActionListener {
    //globally declared buttons
    JButton rules, back;
    JTextField tfname;

    Login(){

        getContentPane().setBackground(c: Color.WHITE);
        //forming my own layout
        setLayout(manager: null);

        ImageIcon i1=new ImageIcon(location: ClassLoader.getSystemResource(name: "icons/login.jpg"));

        //placing image component on the frame

        //obj of j label class
        JLabel image=new JLabel(image: i1);
        image.setBounds(x: 0,y: 0,width: 600,height:640);
        add(comp: image);

        //headings
        JLabel heading=new JLabel(text: "java Quiz");
        heading.setBounds(x: 800,y: 60,width: 300,height:45);
        heading.setFont(new Font(name: "Viner Hand ITC",style: Font.BOLD,size: 40));
        heading.setForeground(new Color(r: 30,g: 144,b: 254));
        add(comp: heading);

        //label for entering name
```

```
        JLabel name = new JLabel(text: "Enter your name");
        name.setBounds(x: 810, y: 150, width: 300, height:50);
        name.setFont(new Font(name: "Mongolian Baiti", style: Font.BOLD, size: 18));
        name.setForeground(new Color(r: 30, g: 144, b: 254));
        add(comp: name);



        //creating textbox for name entry
         tfname=new JTextField();
        tfname = new JTextField();
        tfname.setBounds(x: 735, y: 210, width: 300, height:30);
        tfname.setFont(new Font(name: "Times New Roman", style: Font.BOLD, size: 15));
        add(comp: tfname);

        //creating button for rules

         rules = new JButton(text: "Rules");
        rules.setBounds(x: 735, y: 280, width: 120, height:30);
        rules.setBackground(new Color(r: 30, g: 144, b: 254));
        rules.setForeground(fg: Color.WHITE); //changing color of text in rules to white
        rules.addActionListener(l: this);
        add(comp: rules);

        //creating button for back
         back = new JButton(text: "Back");
        back.setBounds(x: 900, y: 280, width: 120, height:30);
        back.setBackground(new Color(r: 30, g: 144, b: 254));
        back.setForeground(fg: Color.WHITE);
        back.addActionListener(l: this);//told us that action has been performed in this button
        add(comp: back);

        setSize(width: 1200,height:640);
        setLocation(x: 140,y: 100);
        setVisible(b: true);
    }
```

```
        setVisible(b: true);
    }

    //over riding the unimplemented action Listener method
    public void actionPerformed(ActionEvent ae){

        if (ae.getSource() == back) {
            setVisible(b: false);
        }
        else if (!(Pattern.matches(regex: "[A-Z][a-zA-Z]+([ '-][a-zA-Z]+)*", input: tfname.getText()))||!(Pattern.matches(regex: "[A-Z][a-zA-Z]*", inp
{
            JOptionPane.showMessageDialog(parentComponent: null, message: "Please enter a valid name", title: "Error", messageType: JOptionPane.ERROR_MESSAGE

            }

        else if(ae.getSource() == rules) {
            String name = tfname.getText();
            setVisible(b: false);
            new Rules(name);
        }


    }

    public static void main(String[] args){
        new Login();//ananomous object

    }
}
```

(MAIN PAGE)

```
package quiz;
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class Quiz extends JFrame implements ActionListener{

    //2D array of string
    String questions[][] = new String[10][5];
    String answers[][] = new String[10][2];
    String useranswers[][] = new String[10][1];//to track the answers of user
    JLabel qno, question;
    JRadioButton opt1, opt2, opt3, opt4;
    ButtonGroup groupoptions;
    JButton next, submit;

    public static int Total_time=200;
    public static int timer=20;
    public static int ans_given=0;  //is the flag to know that wheather question is opted or not
    public static int count = 0;//count will increase questionwise
    public static int score = 0;//initial score

    String name;

    Quiz(String username){
        this.name=name;
        setBounds(x: 50,y: 0,width: 1400,height:800);//size of frame//first 2 args location of frame//next two args a
        getContentPane().setBackground(c: Color.WHITE);    //background color white
        setLayout(manager: null);

        //inserting image
        ImageIcon i1 = new ImageIcon(location: ClassLoader.getSystemResource(name: "icons/quiz.jpg"));
        JLabel image = new JLabel(image: i1);
        image.setBounds(x: 0, y: 0, width: 1400, height:300);
        add(comp: image);
```

```
37
38          //labels
39           qno=new JLabel();    //value will be insert dynamically
40          qno.setBounds(x: 100,y: 350,width: 50,height:30);
41          qno.setFont(new Font(name: "Tahoma",style: Font.PLAIN,size: 24));
42          add(comp: qno);
43
44           question=new JLabel();    //value will be insert dynamically
45          question.setBounds(x: 150,y: 350,width: 900,height:30);
46          question.setFont(new Font(name: "Tahoma",style: Font.PLAIN,size: 24));
47          add(comp: question);
48
49          questions[0][0] = "Which is used to find and fix bugs in the Java programs.?";
50          questions[0][1] = "JVM";
51          questions[0][2] = "JDB";
52          questions[0][3] = "JDK";
53          questions[0][4] = "JRE";
54
55          questions[1][0] = "What is the return type of the hashCode() method in the Object class?";
56          questions[1][1] = "int";
57          questions[1][2] = "Object";
58          questions[1][3] = "long";
59          questions[1][4] = "void";
60
61          questions[2][0] = "Which package contains the Random class?";
62          questions[2][1] = "java.util package";
63          questions[2][2] = "java.lang package";
64          questions[2][3] = "java.awt package";
65          questions[2][4] = "java.io package";
66
67          questions[3][0] = "An interface with no fields or methods is known as?";
68          questions[3][1] = "Runnable Interface";
69          questions[3][2] = "Abstract Interface";
70          questions[3][3] = "Marker Interface";
71          questions[3][4] = "CharSequence Interface";
72
73          questions[4][0] = "In which memory a String is stored, when we create a string using new operator?";
```

```
73           questions[4][0] = "In which memory a String is stored, when we create a string using new operat
74           questions[4][1] = "Stack";
75           questions[4][2] = "String memory";
76           questions[4][3] = "Random storage space";
77           questions[4][4] = "Heap memory";
78
79           questions[5][0] = "Which of the following is a marker interface?";
80           questions[5][1] = "Runnable interface";
81           questions[5][2] = "Remote interface";
82           questions[5][3] = "Readable interface";
83           questions[5][4] = "Result interface";
84
85           questions[6][0] = "Which keyword is used for accessing the features of a package?";
86           questions[6][1] = "import";
87           questions[6][2] = "package";
88           questions[6][3] = "extends";
89           questions[6][4] = "export";
90
91           questions[7][0] = "In java, jar stands for?";
92           questions[7][1] = "Java Archive Runner";
93           questions[7][2] = "Java Archive";
94           questions[7][3] = "Java Application Resource";
95           questions[7][4] = "Java Application Runner";
96
97           questions[8][0] = "Which of the following is a mutable class in java?";
98           questions[8][1] = "java.lang.StringBuilder";
99           questions[8][2] = "java.lang.Short";
100          questions[8][3] = "java.lang.Byte";
101          questions[8][4] = "java.lang.String";
102
103          questions[9][0] = "Which of the following option leads to the portability and security of Java?
104          questions[9][1] = "Bytecode is executed by JVM";
105          questions[9][2] = "The applet makes the Java code secure and portable";
106          questions[9][3] = "Use of exception handling";
107          questions[9][4] = "Dynamic binding between objects";
108
109          answers[0][1] = "JDB";
```

```
110             answers[1][1] = "int";
111             answers[2][1] = "java.util package";
112             answers[3][1] = "Marker Interface";
113             answers[4][1] = "Heap memory";
114             answers[5][1] = "Remote interface";
115             answers[6][1] = "import";
116             answers[7][1] = "Java Archive";
117             answers[8][1] = "java.lang.StringBuilder";
118             answers[9][1] = "Bytecode is executed by JVM";
119
120             //JRadio Button
121
122             opt1 = new JRadioButton();
123             opt1.setBounds(x: 120, y: 420, width: 700, height:30);
124             opt1.setBackground(bg: Color.WHITE);
125             opt1.setFont(new Font(name: "Dialog", style: Font.PLAIN, size: 20));
126             add(comp: opt1);
127
128             opt2 = new JRadioButton();
129             opt2.setBounds(x: 120, y: 460, width: 700, height:30);
130             opt2.setBackground(bg: Color.WHITE);
131             opt2.setFont(new Font(name: "Dialog", style: Font.PLAIN, size: 20));
132             add(comp: opt2);
133
134             opt3 = new JRadioButton();
135             opt3.setBounds(x: 120, y: 500, width: 700, height:30);
136             opt3.setBackground(bg: Color.WHITE);
137             opt3.setFont(new Font(name: "Dialog", style: Font.PLAIN, size: 20));
138             add(comp: opt3);
139
140             opt4 = new JRadioButton();
141             opt4.setBounds(x: 120, y: 540, width: 700, height:30);
142             opt4.setBackground(bg: Color.WHITE);
143             opt4.setFont(new Font(name: "Dialog", style: Font.PLAIN, size: 20));
144             add(comp: opt4);
145
146
```

(IMPLEMENTING TIMER USING GUI-using paint repaint function which call itself)

```
    public void paint(Graphics g) {
185         super.paint(g);
186
187         //total time left
188         String Ttime="Remaining time "+Total_time+" s";
189         g.setColor(c: Color.red);
190         g.setFont(new Font(name: "Tahoma",style: Font.BOLD,size: 30));
191         if(Total_time>0){
192             g.drawString(str:Ttime, x: 1000, y: 500);
193         }else{
194             g.drawString(str:"Times Up!", x: 1000, y: 500);
195         }
196         Total_time--;
197         //call repaint method after 1 sec
198         //stop code of execution for 1 sec using thread class
199         //multi threading class //sleep method
200         try{
201             Thread.sleep(millis:10);
202             repaint();
            }catch(Exception err){
                err.printStackTrace();
205         }
206
207
208         String time = "Question time " + timer + " s"; // 20
209         g.setColor(c: Color.RED);
210         g.setFont(new Font(name: "Tahoma", style: Font.BOLD, size: 25));
211
212         if (timer > 0) {
213             g.drawString(str:time, x: 1000, y: 600);
214         } else {
215             g.drawString(str:"Times up!!", x: 1000, y: 600);
216         }
217
218         timer--; // 19
219
```

Outcome of the Project

The outcome of an online examination system can have many benefits for educational institutions, organizations, and individuals. Some potential outcomes of such a project include:

- Increased efficiency: An online examination system can streamline the entire exam process, from registration to result declaration, saving time and effort for both students and instructors.
- Improved accessibility: Online exams can be taken from anywhere, at any time, making them more accessible to students who may have difficulty attending in-person exams.
- Reduced costs: Online exams can reduce the costs associated with traditional paper- based exams, such as printing and transportation.
- Enhanced security. Online exams can have features like remote proctoring and biometric authentication to ensure the integrity of the exam process and prevent cheating.
- Faster result processing: Online exams can provide instant feedback to students and eliminate the need for manual result processing, reducing the time it takes to get results to students.