

DON BOSCO INSTITUTE OF TECHNOLOGY



Skill based Lab Course: Object Oriented Programming with Java

MINI PROJECT REPORT

On

**“Quiz Portal”
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**Under the guidance of
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Mini Project Title : Quiz

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Internal Guide

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INTRODUCTION

Topic: Quiz

A quiz is a form of game or mind sport in which players attempt to answer questions correctly about a certain or variety of subjects. Quizzes can be used as a brief assessment in education and similar fields to measure growth in knowledge, abilities, or skills. They can also be televised for entertainment purposes, often in a game show format.

We have developed a Quiz using java. In this quiz we have used Graphical User Interface (GUI) which makes it interactive and gives it an application type look.

We have added a number of multiple choice questions and the user has to select an appropriate answer from the given multiple choices.

For now, we have added 10 questions but we can increase or decrease the number of questions according to our need.

Once the user selects an option, he/she has to click submit (for it to be registered) and then go to the next question.

If the user has gone ahead with another question and is not happy with one of his/her previous answer, he/she can use the previous button.

Once the user has answered all the questions, he/she has to click on the end quiz button to end the quiz

After that the score will be automatically displayed.

IMPLEMENTATION

Source Code:

```
package com.company;
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.util.ArrayList;

public class Main implements ActionListener {

    JFrame frame = new JFrame("Login");
    JLabel userLabel, passwordLabel, success;
    JTextField userText;
    JPasswordField passwordText;
    JButton btnLogin, btnReset;

    public static String L_name = "";

    void login() {
        frame.setBounds(100,100,500,300);
        frame.setLayout(null);
        frame.setDefaultCloseOperation(WindowConstants.EXIT_ON_CLOSE);

        userLabel = new JLabel("Username: ");
        userLabel.setBounds(75,25,100,25);
        frame.add(userLabel);

        userText = new JTextField(10);
        userText.setBounds(150,25,200,25);
        frame.add(userText);

        passwordLabel = new JLabel("Password: ");
        passwordLabel.setBounds(75,60,200,25);
        frame.add(passwordLabel);

        passwordText = new JPasswordField(10);
        passwordText.setBounds(150,60,200,25);
        frame.add(passwordText);

        btnLogin = new JButton("Login");
        btnLogin.setBackground(Color.cyan);
        btnLogin.setBounds(125,115,100,25);
        frame.add(btnLogin);
        btnLogin.addActionListener(this);

        btnReset = new JButton("Reset");
        btnReset.setBackground(Color.cyan);
        btnReset.setBounds(275,115,100,25);
        frame.add(btnReset);
        btnReset.addActionListener(this);

        success = new JLabel("");
        success.setBounds(125,160,200,25);
        frame.add(success);

        frame.setVisible(true);
    }
}
```

```

@Override
public void actionPerformed(ActionEvent e) {
    String user = userText.getText();
    String password = passwordText.getText();
    System.out.println(user + ", " + password);

    String btnPress = ((JButton)e.getSource()).getText();
    if (btnPress == "Login"){
        if((user.length() >= 1) && (password.length()>=1)) {
            L_name = userText.getText();
            Quiz obj = new Quiz();
            obj.GUI();
            frame.dispose();
        }
        else {
            success.setText("Please enter valid details");
        }
    }
    else if (btnPress == "Reset") {
        userText.setText(null);
        passwordText.setText(null);
    }
}

public static void main(String[] args) {
    Main qt = new Main();
    qt.login();
}
}

class Quiz implements ActionListener {

    DataHandler Dh = new DataHandler();
    public static int score = 0;

    JFrame F_main = new JFrame();
    JLabel lblQn, lblQs, lblYc;
    JTextField tfAns;
    JButton bPrev, bNxt, bSub, bEq;

    public void GUI() {
        F_main.setTitle("QUIZ");
        F_main.setBounds(100,100,800,400);
        F_main.setLayout(null);
        F_main.setDefaultCloseOperation(WindowConstants.EXIT_ON_CLOSE);

        lblQn = new JLabel("Question No. 1");
        lblQn.setBounds(10,10,100,50);
        F_main.add(lblQn);

        lblQs = new JLabel(Dh.current());
        lblQs.setBounds(10,50,500,70);
        F_main.add(lblQs);

        lblYc = new JLabel("Your Choice: ");
        lblYc.setBounds(10,250,100,50);
        F_main.add(lblYc);

        tfAns = new JTextField(10);
        tfAns.setBounds(100,265,100,25);
        F_main.add(tfAns);
    }
}

```

```

        bSub = new JButton("Submit");
        bSub.setBounds(225,265,150,25);
        bSub.setBackground(Color.getHSBColor(26,57,14));
        bSub.addActionListener(this);
        F_main.add(bSub);

        bPrev = new JButton("Previous");
        bPrev.setBounds(100,300,150,50);
        bPrev.setBackground(Color.cyan);
        bPrev.addActionListener(this);
        F_main.add(bPrev);

        bNxt = new JButton("Next");
        bNxt.setBounds(300,300,150,50);
        bNxt.setBackground(Color.cyan);
        bNxt.addActionListener(this);
        F_main.add(bNxt);

        bEq = new JButton("End Quiz");
        bEq.setBounds(600,300,150,50);
        bEq.setBackground(Color.getHSBColor(60,17,44));
        bEq.addActionListener(this);
        F_main.add(bEq);

        F_main.setVisible(true);
    }

    @Override
    public void actionPerformed(ActionEvent e) {
        String btnClicked = ((JButton)e.getSource()).getText();
        if (btnClicked == "Submit") {
            if(Dh.checkAns(tfAns.getText())) {
                score++;
            }
            tfAns.setText(null);
        }

        else if (btnClicked == "Previous") {
            tfAns.setText(null);
            lblQn.setText("Question No. " + (Dh.counter));
            lblQs.setText(Dh.prev());
        }

        else if (btnClicked == "Next") {
            tfAns.setText(null);
            lblQn.setText("Question No. " + (Dh.counter + 2));
            lblQs.setText(Dh.next());
        }

        else if (btnClicked == "End Quiz") {
            Quiz_End qe = new Quiz_End();
            qe.End();
            F_main.dispose();
        }
    }
}

class DataHandler {
    public int counter;
    public ArrayList<String> que, ans;
    public DataHandler(){
        que = new ArrayList<String>();
        que.add("Choose the odd man out:          A. While      B. for      C. do-

```

```

while (true) {
    D. String");
    que.add("What is JAVA?          A. Programming Language      B. Address
C.Name      D. Number");
    que.add("AWT is used for?        A. Notifications          B. GUI in Java
C. Display   D. Pop ups");
    que.add("Choose the odd man out:  A. Python      B. C++          C. Java
D. Method");
    que.add("Swing is built on top of AWT in java?      A. True          B.
False");
    que.add("India's capital is?          A. Mumbai          B. Chennai          C.
Hyderabad      D. New Delhi");
    que.add("5 + 7 is          A. 8          B. 23          C. 12          D. 50");
    que.add("What is Valorant?          A. VideoGame          B. A dish          C. A
language      D. Place");
    que.add("A normal year has how many days?          A. 509          B. 365
C. 400          D. 120");
    que.add("10 + 15 is          A. 25          B. 12          C. 90          D. 53");

    ans = new ArrayList<String>();
    ans.add("D");
    ans.add("A");
    ans.add("B");
    ans.add("D");
    ans.add("A");
    ans.add("D");
    ans.add("C");
    ans.add("A");
    ans.add("B");
    ans.add("A");
}

public String next() {
    counter++;
    if (counter == 10) {
        return "Quiz Over!!! Please press End Quiz to see your score";
    }
    return que.get(counter);
}

public String prev() {
    counter--;
    if (counter == -1) {
        counter = 9;
    }
    return que.get(counter);
}

public String current() {return que.get(counter);}

public boolean checkAns(String userAns) {
    if (userAns.equalsIgnoreCase(ans.get(counter))) {
        return true;
    }
    else {
        return false;
    }
}

}

class Quiz_End implements ActionListener {

    JFrame frF = new JFrame("Quiz End");
    JLabel lblUsername, lblScore, lblRemark;
    JButton btnTryAgain, btnExit;
}

```



```

Main qt = new Main();
int scr = Quiz.score;
String sc = Integer.toString(Quiz.score);
String name = Main.L_name;

void End() {
    frF.setBounds(100,100,500,250);
    frF.setDefaultCloseOperation(WindowConstants.EXIT_ON_CLOSE);
    frF.setLayout(null);

    lblUsername = new JLabel();
    lblUsername.setBounds(170,10,200,25);
    lblUsername.setText("Username: " + name);
    frF.add(lblUsername);

    lblScore = new JLabel();
    lblScore.setBounds(170,30,100,25);
    lblScore.setText("Score: " + sc + "/10");
    frF.add(lblScore);

    lblRemark = new JLabel();
    if(scr>=8 && scr<=10){
        lblRemark.setText("Excellent!!!!");
    }

    else if (scr>=5 && scr<8) {
        lblRemark.setText("Good Work!!!");
    }

    else if (scr>2 && scr<5) {
        lblRemark.setText("Better luck next time!!");
    }

    else if (scr>=0 && scr<2) {
        lblRemark.setText("Try Again!!");
    }

    lblRemark.setBounds(170,50,200,25);
    frF.add(lblRemark);

    btnTryAgain = new JButton("Try Again");
    btnTryAgain.setBounds(120,100,100,30);
    btnTryAgain.addActionListener(this);
    frF.add(btnTryAgain);

    btnExit = new JButton("Exit");
    btnExit.setBounds(250,100,100,30);
    btnExit.addActionListener(this);
    frF.add(btnExit);

    frF.setVisible(true);
}

@Override
public void actionPerformed(ActionEvent e) {
    String btnPress = ((JButton)e.getSource()).getText();
    if (btnPress == "Try Again") {
        qt.login();
        frF.dispose();
    }
    else if (btnPress == "Exit") {
        frF.dispose();
    }
}

```

}
}

RESULT

A few screenshots of the output:

QUIZ

Question No. 1

Choose the odd man out: A. While B. for C. do-while D. String

Your Choice:

Submit

Previous **Next** **End Quiz**

QUIZ


Question No. 9

A normal year has how many days? A. 509 B. 365 C. 400 D. 120

Your Choice:

Submit

Previous **Next** **End Quiz**

 QUIZ

—

□

×

Question No. 11

Quiz Over!!! Please press End Quiz to see your score


Your Choice:

Submit

Previous

Next

End Quiz

 QUIZ

—

□

×

Your score: 4/10

Your Choice:

Submit

Previous

Next

End Quiz

CONCLUSION

A few topics used in this project:

- Data Structures
- Methods
- Variables
- Static/method Variables
- Constructors
- Classes
- Array Lists
- Strings
- Integers
- Interfaces
- Operators
- 'if-else' blocks
- Branching
- Loops
- OOPM fundamentals
- Polymorphism
- Method Overriding
- User defined method
- Multiple Inheritance using Interference
- Graphical User Interface programming (GUI)
- Abstract Window Tool kit (AWT)
- Swing

Using these and many more topics and skills taught to us in the JAVA course, we developed the Quiz Portal from the ground up.

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