University of Information Technology and Sciences (UITS)

Department of Information Technology

TEAM NAME:PIXEL

IT-216 : OBJECT ORIENTED PROGRAMMING LAB II

Java Quiz Desktop Application

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Contents

1 AWT Project

Object Oriented Programming Language in this course we are learn java and also learn how to we can create a desktop application project use AWT (Abstract Windowing Toolkit). In this project we got a new Idea about AWT and GUI. The project is about a set of multiple choice question answer . Desktop application can be easily developed using java. We use APIs like AWT, Swing, Java Frame to build these application. AWT is on interface used to develop window-based application in java.[1]

2 Objective

In this lab We have to learn how to use java AWT(Abstract Windowing Toolkit), Javax Swing . Java swing tutorial is a part of java foundation classes, an API for providing a graphics user interface, for java programmers, and AWT is java original platform depended windowing graphics also, and user interface widget toolkit. This is part of API. we use AWT. Provides the classes necessary to create an applet and the classes an applet uses to communicate with its applet context. Contains all of the classes for creating user interfaces and for painting graphics and images. We are also used Swing. Swing was developed to provide a more sophisticated set of GUI components than the earlier Abstract Window Toolkit (AWT).[2]

Here we have used many function like as label, javax. swing. JButton, implements etc. We've also learned how to add frame, colour, Font, Layout etc.[3]

3 Working Procedure

First of all we create the Home page where you can start your Quiz there before starting this you have to enter your name and roll-number then only you can start otherwise it will display data missing messing. We import many java package into a class, we need to use java import keyword which is used to access package and its classes into the java program. We take package quiz; import some awt package for color ,layout ,frame, font .Used awt event for ActionListener ,Actionevent. We import javax swing for image icon, JButton ,JFrame,JLavel , JTextField ,JOption-Pane. We set size ,backgraund color,button color,image. Then we link Question Page to main class. When candidate fill first page requiarment like enter name and SID and click start button then Question Page will open. In this section we used a good luck label , the set 10 questions and finally add save and submit button. When candidate click save and submitted button candidate see JOptionPane. and score.

4 Outcome

4.1 Output-1

Figure 1: Output-1

4.2 Output-2

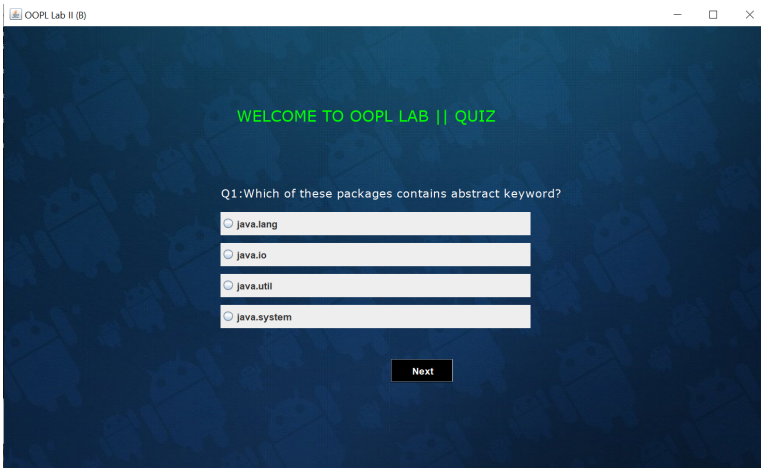

Figure 2: Output-2

4.3 Output-3

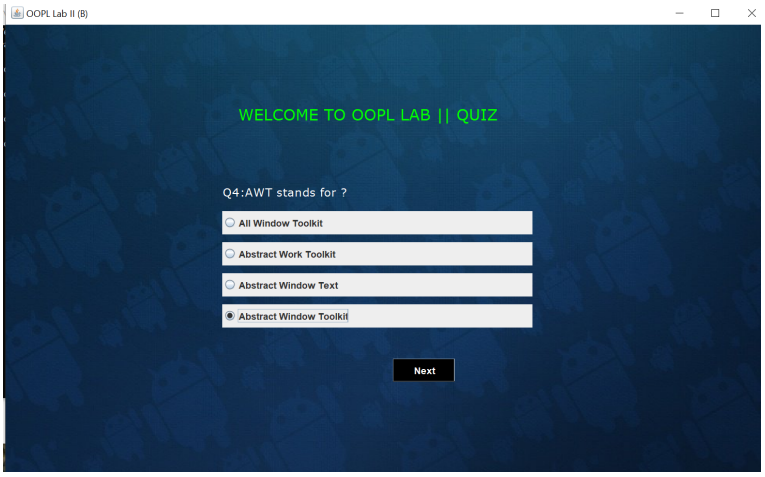

Figure 3: Output-4

4.4 Output-4

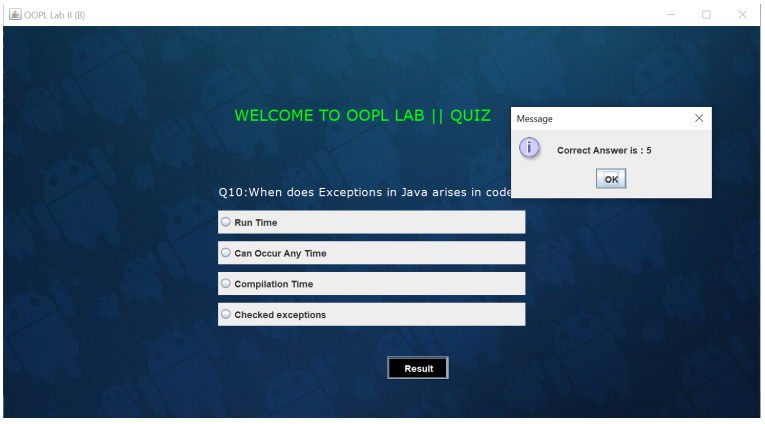

Figure 4: Output-4

5 Conclusion

After doing all the necessary thing we learn how to work with java and AWT and GUI project. From this project we got an idea about AWT. Knowing many things about OOPL in JAVA and know about AWT and how it's works and why we used it. This project helps us to develop real-world projects to growth skills and materialise our theoretical knowledge into practical experience. Overall, the java project gives us a complete design for the extended language.

6 Java Code

6.1 Class Tauhid(Main class)

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.io.File;
import java.io.IOException;
import javax.imageio.ImageIO;
import javax.swing.ImageIcon;
import javax.swing.JFrame;
import javax.swing.JLabel;


public class Tauhid extends JFrame implements ActionListener  // inheritance & interface
{


  JButton btn1;

    public Tauhid()
  {

    try
    {
          setContentPane(new JLabel(new ImageIcon(ImageIO.read(new File("aq.jpg")))));
        }
    catch (IOException e)
    {
            e.printStackTrace();
        }

       setSize(1200,800);

       getContentPane().setBackground(Color.WHITE);
       setLayout(null);
       setTitle("OOPL Lab II (B)");

       ImageIcon I1 = new ImageIcon("uits.jpg");
       JLabel L1 = new JLabel(I1);
       L1.setBounds(30,0,250,300);
       add(L1);

       JLabel dv1 =new JLabel("Developed By:");
       dv1.setForeground(Color.BLUE);
       dv1.setBounds(50,310,200,30);
       add(dv1);

```

```
46          JLabel name =new JLabel("Name:Tauhid Hasan Chowdhury");
47          name.setBounds(50,350,300,30);
48          add(name);
49          JLabel id =new JLabel("ID:2014755041");
50          id.setBounds(50,390,300,30);
51          add(id);
52
53         JLabel name1 =new JLabel("Name:Taposhe Rabeya Medha");
54         name1.setBounds(50,430,300,30);
55         add(name1);
56         JLabel id1 =new JLabel("ID:2014755038");
57         id1.setBounds(50,480,300,30);
58         add(id1);
59
60
61          JLabel L2=new JLabel("UNIVERSITY OF INFORMATION TECHNOLOGY
    AND SCIENCE ");
62          L2.setFont(new Font ("Monotype Corsiva",Font.BOLD,20));
63          L2.setForeground(Color.BLUE);
64          L2.setBounds(330,60,600,80);
65          add(L2);
66
67          JLabel L3=new JLabel("DEPARTMENT OF INFORMATION TECHNOLOGY "
    );
68          L3.setFont(new Font ("Monotype Corsiva",Font.BOLD,18));
69          L3.setForeground(Color.BLUE);
70          L3.setBounds(380,120,520,80);
71          add(L3);
72
73          JLabel l1 = new JLabel("Your Name: ");
74          l1.setBounds(380,250,100,30);
75          l1.setFont(new Font("Verdana", Font.PLAIN, 15));
76          add(l1);
77
78
79          JLabel l2= new JLabel("Your SID: ");
80              l2.setBounds(380,320,100,30);
81          l2.setFont(new Font("Verdana", Font.PLAIN, 15));
82          add(l2);
83
84          JTextField t1 = new JTextField();
85              t1.setBounds(480,250,300,30);
86              add(t1);
87
88          JTextField t2 = new JTextField();
89              t2.setBounds(480,320,300,30);
90              add(t2);
91
92
93              btn1 = new JButton("Next");
94              btn1.setBounds(650, 420, 80, 30);
```

```
95              btn1.setBackground(Color.BLACK);
96          btn1.setForeground(Color.WHITE);
97          btn1.addActionListener(this);
98          add(btn1);
99
100         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
101         setVisible(true);
102
103
104   }
105          public void actionPerformed(ActionEvent e)
106
107          {
108        if(e.getSource()==btn1)
109        {
110          this.setVisible(false);
111          new Hasan().setVisible(true);
112        }
113
114     }
115     public static void main(String [] args)
116     {
117
118     new Tauhid();
119
120     }
121 }
```

[3]

6.2 Class Hasan(Question part)

```
1  import java.awt.*;
2  import java.awt.event.*;
3  import javax.swing.*;
4  import java.io.File;
5  import java.io.IOException;
6  import javax.imageio.ImageIO;
7  import javax.swing.ImageIcon;
8  import javax.swing.JFrame;
9  import javax.swing.JLabel;
10 public class Hasan extends JFrame implements ActionListener //
       inheritance & interface
11 {
12       JLabel q1;
13       JButton nextb;
14       ButtonGroup bg;
15       int running =0;
16       int count=0;
17       JRadioButton rb[]=new JRadioButton[5];
18
```

```
19
20    public  Hasan()
21    {
22      try
23      {
24              setContentPane(new JLabel(new ImageIcon(ImageIO.read(
       new File("sw.jpg"))))));
25           }
26      catch (IOException e)
27      {
28              e.printStackTrace();
29           }
30
31        setSize(1000,550);
32        setTitle("OOPL Lab II (B)");
33        setLayout(null);
34        setVisible(true);
35        setLocation(200,50);
36        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
37
38
39        JLabel qu =new JLabel("WELCOME TO OOPL LAB || QUIZ");
40        qu.setFont(new Font("Verdana", Font.PLAIN, 20));
41        qu.setForeground(Color.GREEN);
42        qu.setBounds(300,100,400,30);
43        add(qu);
44
45
46        q1=new JLabel();
47        q1.setFont(new Font("Verdana", Font.PLAIN, 15));
48        q1.setForeground(Color.WHITE);
49        add(q1);
50        bg= new ButtonGroup();
51        for(int i=0;i<5;i++)
52        {
53          rb[i]=new JRadioButton();
54          add(rb[i]);
55          bg.add(rb[i]);
56        }
57        rb[0].setBounds(280,240,400,30);
58        rb[1].setBounds(280,280,400,30);
59        rb[2].setBounds(280,320,400,30);
60        rb[3].setBounds(280,360,400,30);
61
62
63        nextb =new JButton("Next");
64        nextb.setForeground(Color.WHITE);
65        nextb.setBackground(Color.BLACK);
66        nextb.setBounds(500,430,80,30);
67        add(nextb);
68
```

```
69        nextb.addActionListener(this);
70
71
72        set();
73
74    }
75
76    public void actionPerformed(ActionEvent e)
77    {
78      if(e.getSource()== nextb)
79      {
80        if(check())
81        {
82          count++;
83        }
84        running++;
85        set();
86
87        if(running==9)
88        {
89          nextb.setText("Result");
90
91        }
92      }
93      if(e.getActionCommand().equals("Result"))
94      {
95        if(check())
96        {
97          count++;
98        }
99        running++;
100       JOptionPane.showMessageDialog(this," Correct Answer is : "+
      count);
101       System.exit(0);
102     }
103   }
104
105   void set()
106   {
107   rb[4].setSelected(true);
108     if(running == 0)
109     {
110       q1.setText("Q1:Which of these packages contains abstract
      keyword?");
111       rb[0].setText("java.lang");
112       rb[1].setText("java.io");
113       rb[2].setText("java.util");
114       rb[3].setText("java.system");
115     }
116
117     if(running == 1)
```

```
118      {
119        q1.setText("Q2:How many types of variables are used in java?"
       );
120        rb[0].setText("5");
121        rb[1].setText("2");
122        rb[2].setText("3");
123        rb[3].setText("4");
124      }
125      if(running == 2)
126      {
127        q1.setText("Q3:What does an interface contain?");
128        rb[0].setText("Method name");
129        rb[1].setText("Method declaration");
130        rb[2].setText("Method declaration and definition");
131        rb[3].setText("Method definition");
132      }
133      if(running == 3)
134      {
135        q1.setText("Q4:AWT stands for ?");
136        rb[0].setText("All Window Toolkit");
137        rb[1].setText("Abstract Work Toolkit");
138        rb[2].setText("Abstract Window Text");
139        rb[3].setText("Abstract Window Toolkit");
140      }
141      if(running == 4)
142      {
143        q1.setText("Q5:Which is runtime polymorphism in java oops?");
144        rb[0].setText("Method overloading");
145        rb[1].setText("Constructor overloading");
146        rb[2].setText("Method overriding");
147        rb[3].setText("None");
148      }
149      if(running == 5)
150      {
151        q1.setText("Q6:Which feature can be implemented using
       encapsulation?");
152        rb[0].setText("Abstraction");
153        rb[1].setText("Polymorphism");
154        rb[2].setText("Overloading");
155        rb[3].setText("Inheritance");
156      }
157      if(running == 6)
158      {
159        q1.setText("Q7:Which method can set or change the text in a
       Label?");
160        rb[0].setText("getText()");
161        rb[1].setText("setText()");
162        rb[2].setText("All the above");
163        rb[3].setText("None of the above");
164      }
165      if(running == 7)
```

```
166      {
167        q1.setText("Q8:Which of these keywords must be used to
       inherit a class?");
168        rb[0].setText("super");
169        rb[1].setText("this");
170        rb[2].setText("extent");
171        rb[3].setText("extends");
172      }
173      if(running == 8)
174      {
175        q1.setText("Q9:Which of the following is not a Java features?
       ");
176        rb[0].setText("Dynamic");
177        rb[1].setText("Architecture Neutral");
178        rb[2].setText("Use of pointers");
179        rb[3].setText("WORA");
180      }
181      if(running == 9)
182      {
183        q1.setText("Q10:When does Exceptions in Java arises in code
       sequence?");
184        rb[0].setText("Run Time");
185        rb[1].setText("Can Occur Any Time");
186        rb[2].setText("Compilation Time");
187        rb[3].setText("Checked exceptions");
188      }
189
190      q1.setBounds(280,200,500,30);
191
192    }
193
194    boolean check()
195    {
196      if(running == 0)
197      {
198        return (rb[0].isSelected());
199      }
200      if(running == 1)
201      {
202        return (rb[2].isSelected());
203      }
204      if(running == 2)
205      {
206        return (rb[1].isSelected());
207      }
208      if(running == 3)
209      {
210        return (rb[3].isSelected());
211      }
212      if(running == 4)
213      {
```

```
214         return (rb[2].isSelected());
215       }
216       if(running == 5)
217       {
218         return (rb[0].isSelected());
219       }
220       if(running == 6)
221       {
222         return (rb[1].isSelected());
223       }
224       if(running == 7)
225       {
226         return (rb[3].isSelected());
227       }
228       if(running == 8)
229       {
230         return (rb[2].isSelected());
231       }
232       if(running == 9)
233       {
234         return (rb[0].isSelected());
235       }
236
237
238       return false;
239     }
240
241     public static void main(String [] ja)
242     {
243       Hasan a = new Hasan();
244
245     }
246 }
```

[3]

References

[1] https://www.google.com/search?q=awt+in+java&ei=ft8BYsHdCNTgz7sPzdWIiAY&oq=awt+&gs_lcp=.....

[2] https://www.geeksforgeeks.org/awt-full-form/.

[3] https://www.javatpoint.com/java-awt.