Title: Computer Based Examination (CBT)

Abstract:

This project is an online exam system that allows students to take exams from anywhere. The system is built using Java Swing and does not require a database.

The system has the following key features:

- The exam consist of multiple-choice questions
- Ability to bookmark questions to revisit it later before submission
- No database required
- Management and updation/deletion of question and answers
- Immediate score card system and feedback of the examination

The system is designed to be easy to use and to provide a convenient way for students to take exams. The system is also scalable, so it can be easily modified to accommodate more questions or more users.

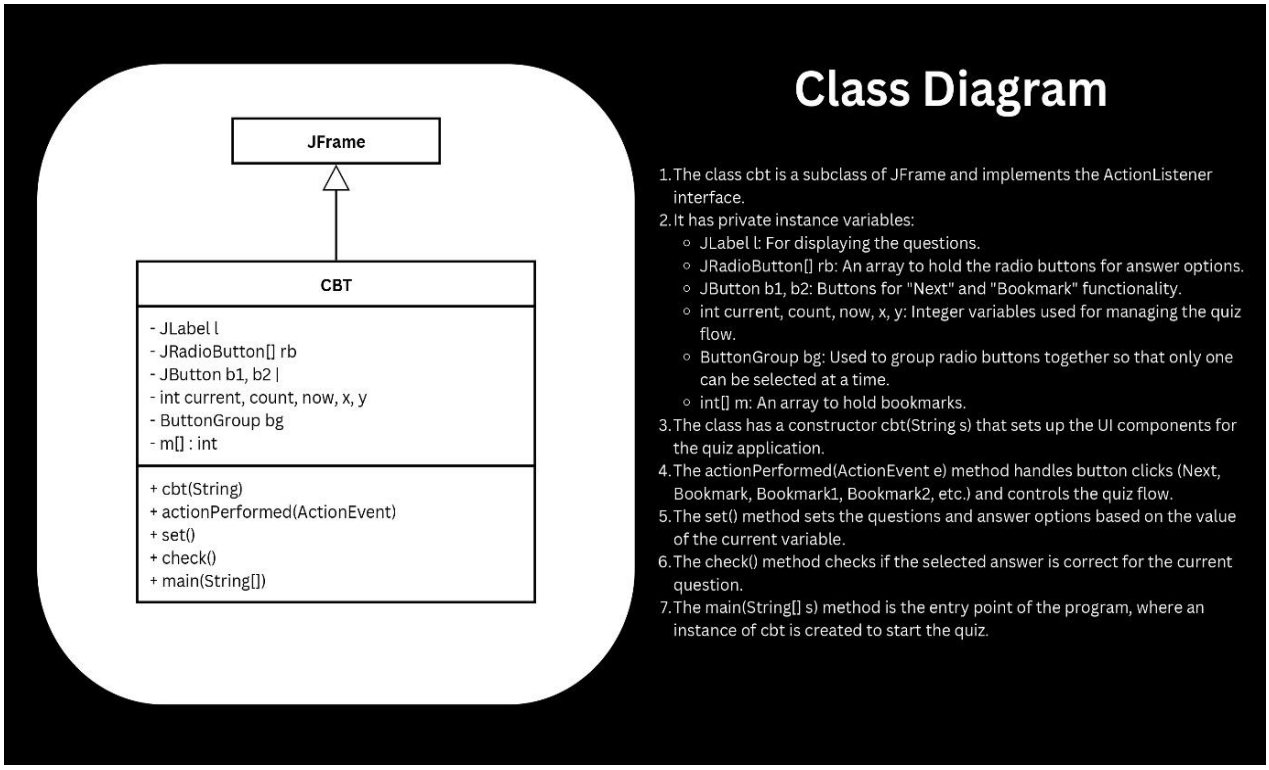
The project is a good example of how Java Swing can be used to create a simple but effective user interface. The project also demonstrates how to use Java arrays and files to store data without a database.

The project is still under development, but it is already functional and can be used to take exams. The project is open source, so anyone can contribute to its development.

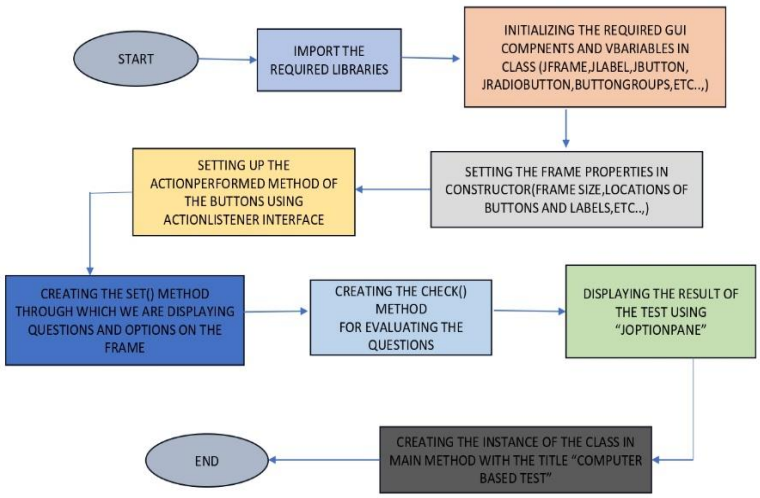
TEAM MEMBERS:

- Deep Parekh – 21BD1A054E
- Dhruv Sarda – 21BD1A054G
- Rudraksh Agarwal – 21BD1A055J
- V.Vishwa Anand – 21BD1A055P

Class Diagram:



WORKFLOW :



Source Code:

```
import javax.swing.*;
import java.awt.event.*;
class cbt extends JFrame implements ActionListener
{
   JLabel l;
   JRadioButton rb[] = new JRadioButton[5];
   ButtonGroup bg;
   JButton b1,b2,b3;
   int current=0;
   int bm[] = new int[11];
   int now,count=0;
   cbt(String s)
   {
      super(s);
     this.setVisible(true);
     this.setSize(650, 350);
     this.setLayout(null);
     this.setDefaultCloseOperation(EXIT_ON_CLOSE);
      l=new JLabel();
     this.add(l);
     l.setBounds(50,30,1200,40);
      bg=new ButtonGroup();
     for(int i=0;i<5;i++)
     {
      rb[i]=new JRadioButton();
      this.add(rb[i]);
```

```
    bg.add(rb[i]);
   }
   for(int i=0;i<4;i++)
   {
       rb[i].setBounds(60, 80+(20*i), 300, 20);
   }
   b1=new JButton("bookmark", null);
   b2= new JButton("next", null);
   b3=new JButton("previous", null);
   this.add(b1);
   this.add(b2);
   this.add(b3);
   b1.setBounds(160,230,100,20);
   b2.setBounds(260,230,100,20);
   b3.setBounds(360,230,100,20);
   b1.addActionListener(this);
   b2.addActionListener(this);
   b3.addActionListener(this);
   set();
}
public void actionPerformed(ActionEvent e)
{
       if(e.getSource()==b2)
       {
          if(check())
          {
             count++;
          }
          current++;
```

```
    set();
}
int x=current+1;
if(e.getActionCommand().equals("bookmark"))
{
    JButton bk=new JButton("bookmark"+x);
    this.add(bk);
    bk.addActionListener(this);
    bk.setBounds(500,60+(20*x),125,20);
    bm[x]=current;
    current++;
    x++;
    set();

}
if(current==9)
{
    b2.setEnabled(true);
    b1.setText("result");
}

if(e.getSource()==b3)
{
    if(check())
    {
        count--;
    }
    current--;
    set();
```

```
}
for(int i=0, y=1;i<x;i++,y++)
{
   if(e.getActionCommand().equals("bookmark"+y))
   {
      if(check())
      {
         count++;
      }
      now=current;
      current=bm[y];
      set();
      current=now;
   }
}
if(e.getActionCommand().equals("result"))
{
   if (check())
   {
      count = count+1;
   }
   current++;
   if(count<4){
      JOptionPane.showMessageDialog(this,"Correct answers= "+count+"\n FAIL");
   }
   else
   {
      JOptionPane.showMessageDialog(this,"Correct answers= "+count+"\n PASS");
   }
```

```
        System.exit(0);
    }
}
void set()
{
    rb[4].setSelected(true);
    if (current==0)
    {
        l.setText("Q1) what is your name?");
        rb[0].setText("dhruv");
        rb[1].setText("deep");
        rb[2].setText("rudraksh");
        rb[3].setText("vishwa");
    }
    if (current==1)
    {
        l.setText("Q2) what is  your subject?");
        rb[0].setText("pp");
        rb[1].setText("ep");
        rb[2].setText("jp");
        rb[3].setText("dsap");
    }
    if (current==2)
    {
        l.setText("Q3) what is correct syntax to output 'hello world' in java?");
        rb[0].setText("print('hello world')");
        rb[1].setText("System.out.println('hello world')");
        rb[2].setText("console.writeline('hello world')");
        rb[3].setText("nota");
```

```
}
if (current==3)
{
   l.setText("Q4)how do you write single line comment in java?");
   rb[0].setText("using /*");
   rb[1].setText("using #");
   rb[2].setText("using //");
   rb[3].setText("all");
}
if (current==4)
{
   l.setText("Q5)which statement is use to stop a loop?");
   rb[0].setText("return");
   rb[1].setText("exit");
   rb[2].setText("stop");
   rb[3].setText("break");
}
if (current==5)
{
   l.setText("Q6) which operator is used to multiply numbers?");
   rb[0].setText("#");
   rb[1].setText("*");
   rb[2].setText("X");
   rb[3].setText("%");
}
if (current==6)
{
   l.setText("Q7) which data type is used to create a variable that stores text?");
   rb[0].setText("Txt");
```

```
        rb[1].setText("string");
        rb[2].setText("MyString");
        rb[3].setText("String");
    }
    if (current==7)
    {
      l.setText("Q8) array indexes start with?");
        rb[0].setText("-1");
        rb[1].setText("1");
        rb[2].setText("0");
        rb[3].setText("nota");
    }
    if (current==8)
    {
          l.setText("Q9) what is size of float in java?");
        rb[0].setText("64");
        rb[1].setText("32");
        rb[2].setText("34");
        rb[3].setText("62");
    }
    if (current==9)
    {
          l.setText("Q10) what is size of double in java?");
        rb[0].setText("64");
        rb[1].setText("32");
        rb[2].setText("34");
        rb[3].setText("62");
    }
}
```

```
boolean check()
{
   if(current==0)
   {
      return rb[0].isSelected();
   }
   if(current==1)
   {
      return rb[2].isSelected();
   }
   if(current==2)
   {
      return rb[1].isSelected();
   }
   if(current==3)
   {
      return rb[2].isSelected();
   }
   if(current==4)
   {
      return rb[3].isSelected();
   }
   if(current==5)
   {
      return rb[1].isSelected();
   }
   if(current==6)
   {
      return rb[3].isSelected();
```

```
        }
        if(current==7)
        {
           return rb[2].isSelected();
        }
        if(current==8)
           return rb[1].isSelected();
        if(current==9)
        {
           return rb[0].isSelected();
        }
        else{
           return false;
        }
      }
   public static void main(String[] args)
   {
      new cbt("COMPUTER BASED TEST");
   }
}
```

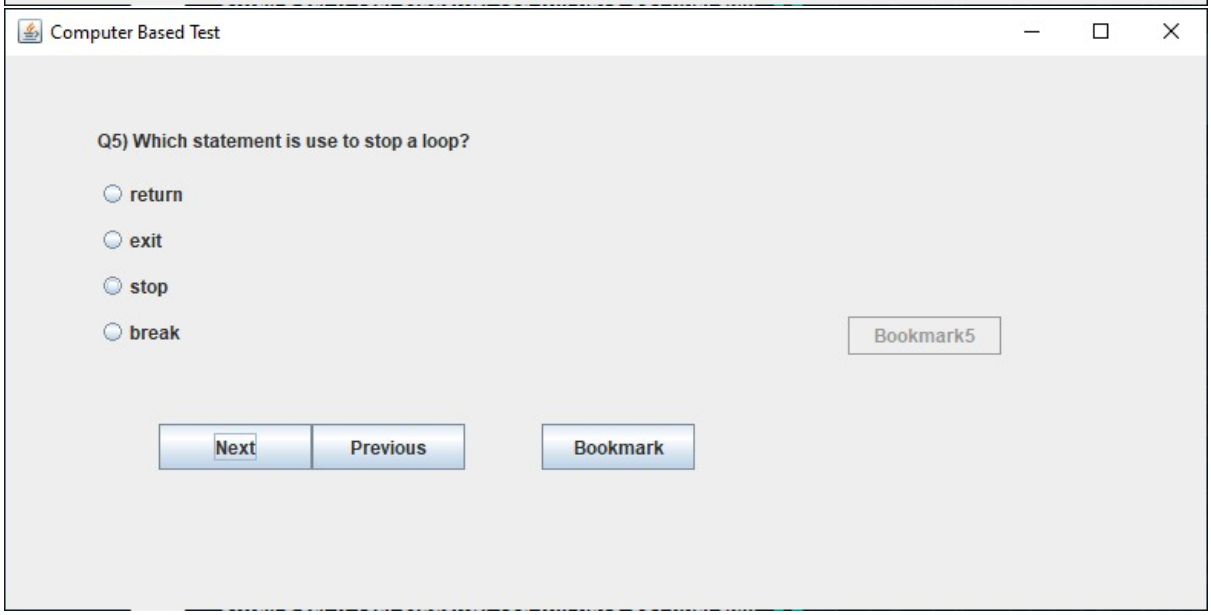
Output:

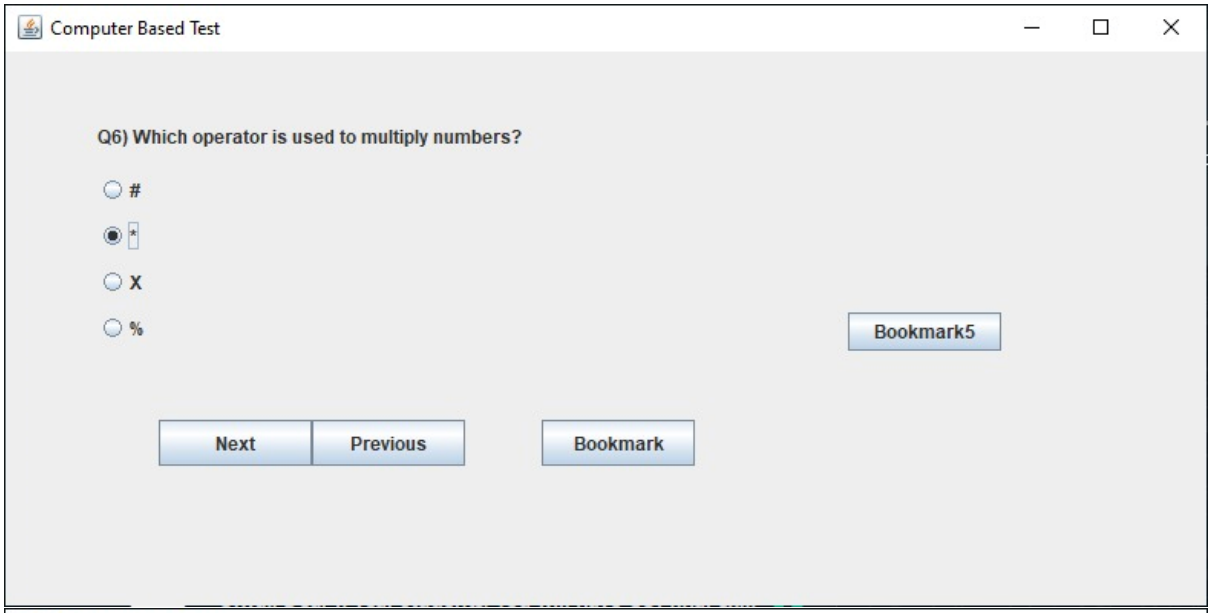

Computer Based Test
Q1) What is your name?
Dhruv
Deep
Rudraksh
Vishwa
Next
Previous
Bookmark

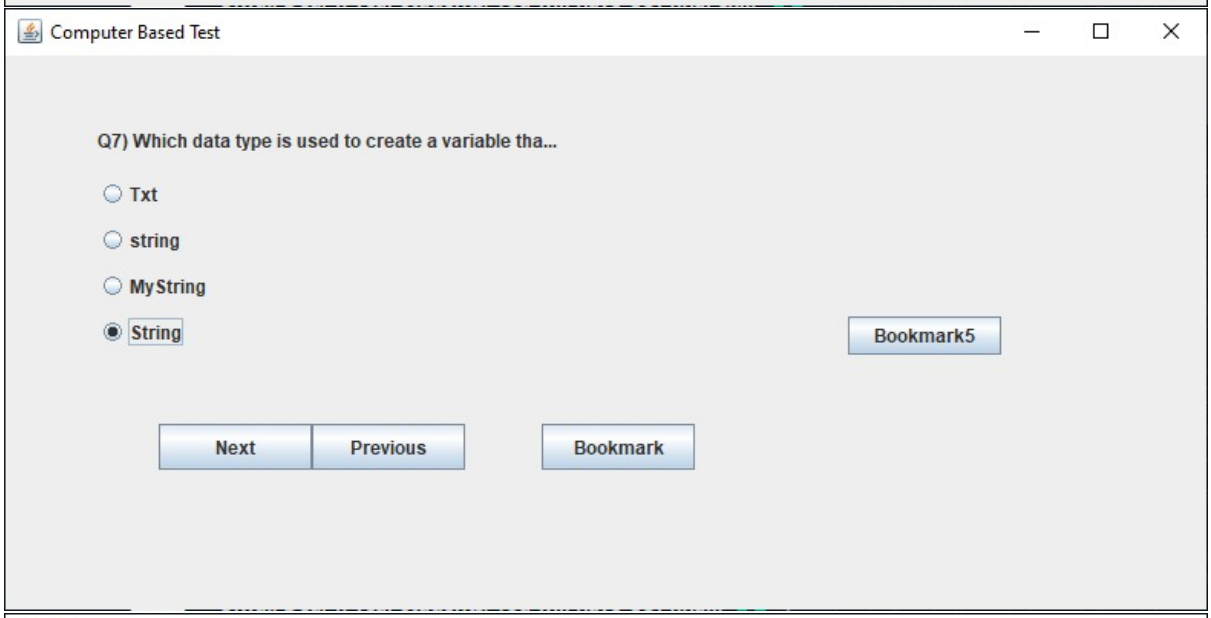

Computer Based Test
Q2) What is your subject?
PP
EP
JP
DSAP
Next
Previous
Bookmark

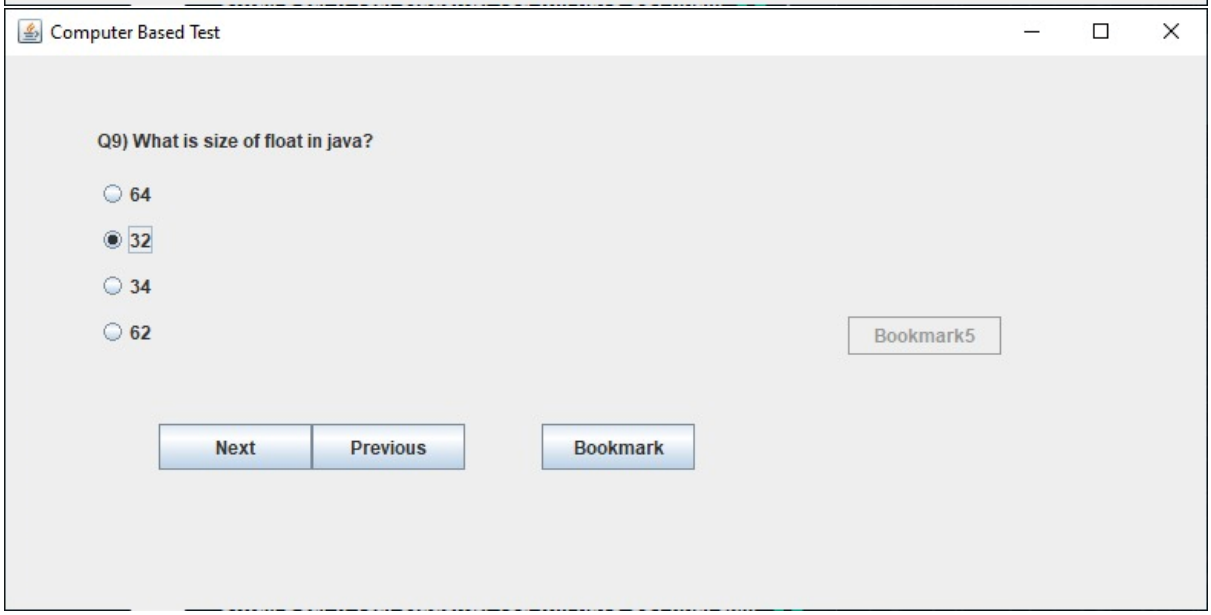

Computer Based Test
Q3) What is correct syntax to output 'hello world' in...
print('hello world')
System.out.println('hello world')
console.writeline('hello world')
nota
Next
Previous
Bookmark

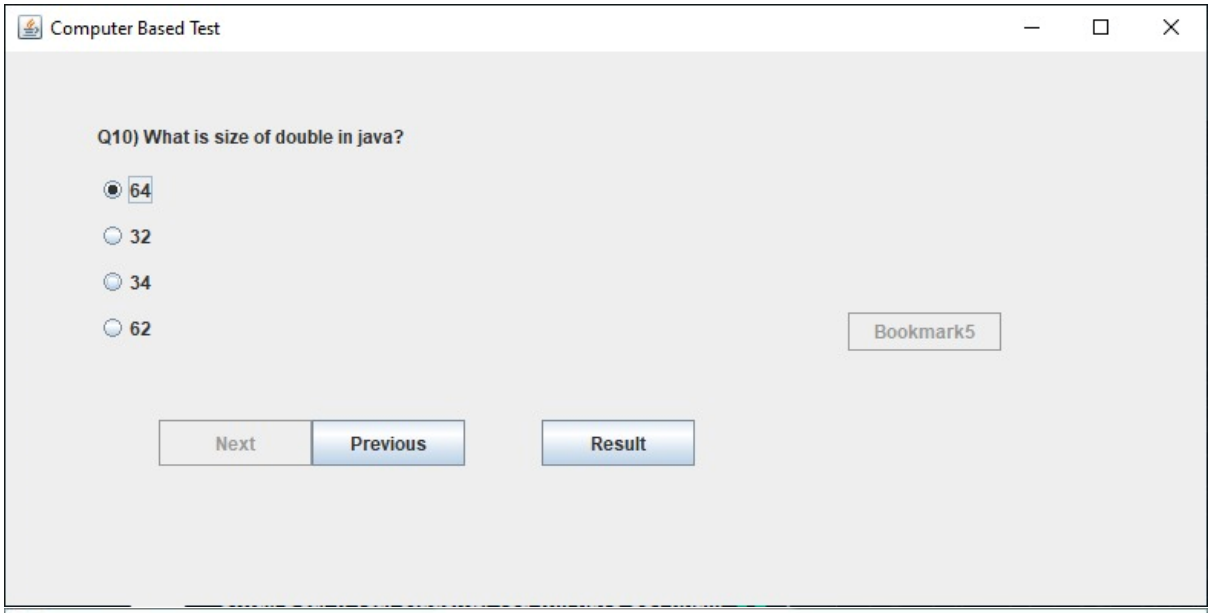

Computer Based Test
Q4) How do you write single line comment in java?
using /*
using #
using //
all
Next
Previous
Bookmark

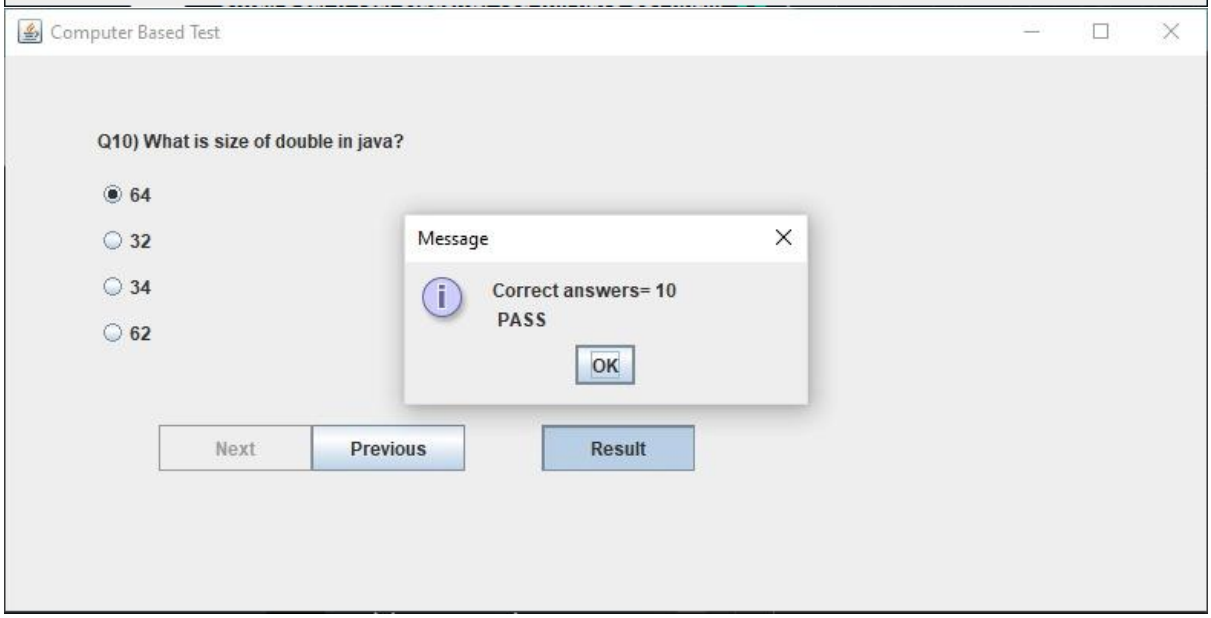

Computer Based Test
Q5) Which statement is use to stop a loop?
return
exit
stop
break
Bookmark5
Next
Previous
Bookmark


Computer Based Test
Q6) Which operator is used to multiply numbers?
#
*
X
%
Bookmark5
Next
Previous
Bookmark


Computer Based Test
Q7) Which data type is used to create a variable tha...
Txt
string
My String
String
Bookmark5
Next
Previous
Bookmark


Computer Based Test
Q9) What is size of float in java?
64
32
34
62
Bookmark5
Next
Previous
Bookmark


Computer Based Test
Q10) What is size of double in java?
64
32
34
62
Bookmark5
Next
Previous
Result


Computer Based Test
Q10) What is size of double in java?
64
32
34
62
Message
Correct answers= 10
PASS
OK
Next
Previous
Result