12 A. Develop an applet that displays a simple message in center of the screen.

AppletP.java

****

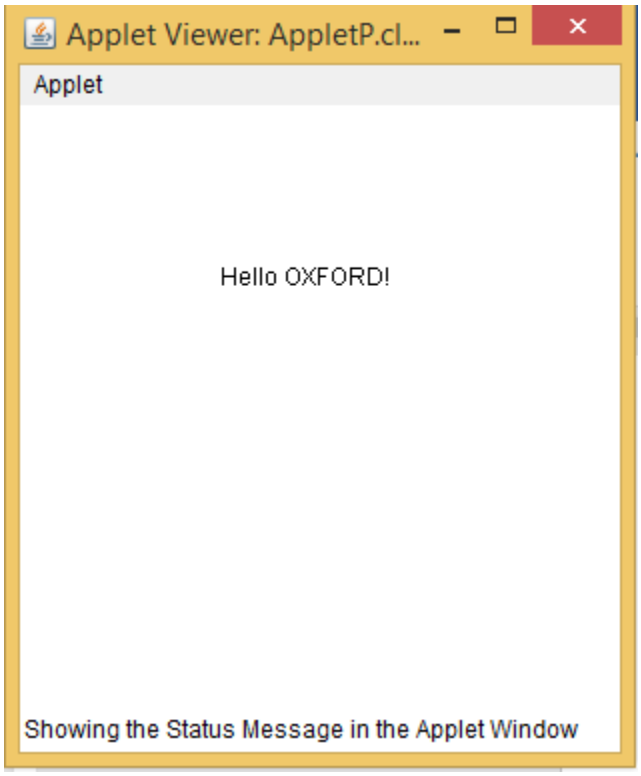
```
import java.applet.Applet;
import java.awt.Graphics;
/*
<applet code="AppletP.class" width="300" height="300">
</applet>
*/
public class AppletP extends Applet
 {
     public void paint(Graphics g)
    {
        g.drawString("Hello OXFORD!", 100, 90);
        showStatus("Showing the Status Message in the Applet Window");
   }
 }
```

To run:

I:\desktop\OOC second year\OOC LAB>javac Appletp.java

I:\desktop\OOC second year\OOC LAB>appletviewer Appletp.java

OUTPUT:



12 B Develop a simple calculator using Swings.

Calculator.java

****

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public class Calculator extends JFrame implements ActionListener {
JButton[] b = new JButton[10];
JButton b10, b11, b12, b13, b14, b15;
JTextField res;
int n1, n2, r;
char op;
public Calculator() {
super("Calulator");
setLayout(new BorderLayout());
JPanel p = new JPanel();
p.setLayout(new GridLayout(4, 4));
for (int i = 0; i <= 9; i++) {
b[i] = new JButton(i + "");
p.add(b[i]);
b[i].addActionListener(this);
}
b10 = new JButton("+");
b11 = new JButton("-");
b12 = new JButton("*");
b13 = new JButton("/");
b14 = new JButton("=");
b15 = new JButton("C");
p.add(b10);
p.add(b11);
p.add(b12);
p.add(b13);
p.add(b14);
p.add(b15);
b10.addActionListener(this);
```

```
b11.addActionListener(this);
b12.addActionListener(this);
b13.addActionListener(this);
b14.addActionListener(this);
b15.addActionListener(this);
res = new JTextField(10);
add(p, BorderLayout.CENTER);
add(res, BorderLayout.NORTH);
res.setFont(new Font("Arial", Font.PLAIN, 20));
res.setPreferredSize(new Dimension(100, 40));
setVisible(true);
setSize(300, 300);
}
public void actionPerformed(ActionEvent ae) {
JButton pb = (JButton) ae.getSource();
if (pb == b15) {
r = n1 = n2 = 0;
res.setText("");
} else if (pb == b14) {
n2 = Integer.parseInt(res.getText());
eval();
res.setText("" + r);
} else {
boolean opf = false;
if (pb == b10) {
op = '+';
opf = true;
} else if (pb == b11) {
op = '-';
opf = true;
} else if (pb == b12) {
op = '*';
opf = true;
} else if (pb == b13) {
op = '/';
opf = true;
}
if (!opf) {
```

```
for (int i = 0; i < 10; i++) {
if (pb == b[i]) {
String t = res.getText();
t += i;
res.setText(t);
}
}
} else {
n1 = Integer.parseInt(res.getText());
res.setText("");
}
}
}
int eval()
{
switch(op)
{
case '+': r=n1+n2; break;
case '-': r=n1-n2; break;
case '*': r=n1*n2; break;
case '/': r=n1/n2; break;
}
return 0;
}
public static void main(String arg[])
{
new Calculator();
}
}
```

To run:

```
I:\desktop\OOC second year\OOC LAB>javac Calculator.java

I:\desktop\OOC second year\OOC LAB>java Calculator
```

OUTPUT: