

Part A

```

Department d = new Department ("R&D",2000000);
Employee e1 = new Employee ("John", 3);
Employee e2 = new Employee ("Debbie", 2);
d.assign(e1);
d.assign(e2);
int count = d.getHeadCount();
if (count>10) d.changeBudget(d.getBudget()*0.05);
else d.changeBudget(-d.getBudget()*0.02);

```

Part B

```

zero
zanzibar
zanzibar
zircon
duchess
stupendous
snark
drum
zort
zymurgy

```

Part C

1a, 2b, 3a, 3d, 4c, 5d, 6d, 7e, 8b, 8c, 9d, 10d, 11c, 12b, 13d, 14c, 15e

Part D

```

<html>
<applet code="MarksProc.class" width=500 height=300>
</applet>
</html>
=====
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

public class MarksProc extends JApplet implements ActionListener {

    JTextField t1, t2;
    JLabel l3, l4;
    JButton b1, b2, b3;
    String best="";
    int sum=0, count=0, oldmark=0;
    public void init() {
        Container c = this.getContentPane();

        JPanel p1 = new JPanel();
        b1 = new JButton("Enter Student data");
        b2 = new JButton("Calculate class average");
        b3 = new JButton("Show student with highest mark");
        b1.addActionListener(this);
        b2.addActionListener(this);

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b3.addActionListener(this);

p1.setLayout(new GridLayout(3,1));
p1.add(b1);
p1.add(b2);
p1.add(b3);
c.add(p1, BorderLayout.WEST);

JPanel p2 = new JPanel();
JLabel l1 = new JLabel ("Enter student name");
t1 = new JTextField (10);
JLabel l2 = new JLabel ("Enter student mark");
t2 = new JTextField (10);
l3 = new JLabel();
l4 = new JLabel();
JLabel l5 = new JLabel(" ");
JLabel l6 = new JLabel(" ");
p2.setLayout(new GridLayout(4,2));
p2.add(l1);
p2.add(t1);
p2.add(l2);
p2.add(t2);
p2.add(l3);
p2.add(l5);
p2.add(l4);
p2.add(l6);
c.add(p2, BorderLayout.EAST);

}

public void actionPerformed(ActionEvent e) {
    if (e.getSource()==b1){
        String name = t1.getText();
        int mark = Integer.parseInt(t2.getText());
        sum+=mark;
        count++;
        if (mark>oldmark) best=name;
        oldmark=mark;
    }
    else if (e.getSource()==b2)
        l3.setText("Class average is "+sum/count);
    else if (e.getSource()==b3)
        l4.setText("Best student is "+best);

}
}
```