1. In Java, Write a program by Usage of Frames and Button Classes.

```
import java.awt.*;
import java.awt.event.*;
class button extends Frame implements ActionListener{
        TextField tf;
        button(){
                tf = new TextField();
                tf.setBounds(50,50,150,20);
                Button b=new Button("click me");
                b.setBounds(80,100,80,30);
                b.addActionListener(this);
                add(b);add(tf);
                setSize(250,200);
                setLayout(null);
                setVisible(true);
        }
        public void actionPerformed(ActionEvent e){
                tf.setText("Welcome To AWT");
        }
        public static void main(String args[]){
                new button();
        }
}
```

2. In Java, Write a program by Usage of Frames and Radio Button Classes.

```
import java.awt.*;
import java.awt.event.*;
class radio extends Frame implements ActionListener{
  Button b = new Button("Get");
  CheckboxGroup g = new CheckboxGroup();
        Checkbox cpp = new Checkbox("C++",g,false);
        Checkbox j = new Checkbox("Java",g,false);
        Checkbox p = new Checkbox("Python",g,false);
        TextField t = new TextField();
  radio(){
```

```
    cpp.setBounds(50, 80, 50, 25);
    j.setBounds(100, 80, 50, 25);
    p.setBounds(160, 80, 50, 25);
                b.setBounds(50, 120, 50, 25);
                t.setBounds(150,120, 50, 25);
                b.addActionListener(this);
    add(cpp);add(j);add(p);add(b);add(t);
    setSize(250,250);
    setLayout(null);
    setVisible(true);
  }
        public void actionPerformed(ActionEvent e) {
                if(e.getSource()==b){
                        if (cpp.getState()==true){
                                t.setText("C++");
                                cpp.setState(false);
                        }
                        if (j.getState()==true){
                                t.setText("Java");
                                j.setState(false);
                        }
                        if (p.getState()==true){
                                t.setText("Python");
                                p.setState(false);
                        }
                }
        }
        public static void main(String[] args) {
                new radio();
        }
}
```

3. In Java, Write a program by Usage of Frames and List Classes.

```
import java.awt.*;
import java.awt.event.*;
class list extends Frame implements ActionListener{
```

```
  Button b = new Button("Get");
        Checkbox cpp = new Checkbox("C++");
        Checkbox j = new Checkbox("Java");
        Checkbox p = new Checkbox("Python");
        List l = new List();
  list(){
    cpp.setBounds(50, 80, 50, 25);
    j.setBounds(100, 80, 50, 25);
    p.setBounds(160, 80, 50, 25);
                b.setBounds(50, 150, 50, 25);
                l.setBounds(150,130, 50, 60);
                b.addActionListener(this);
    add(cpp);add(j);add(p);add(b);add(l);
    setSize(250,250);
    setLayout(null);
    setVisible(true);
  }
        public void actionPerformed(ActionEvent e) {
                if(e.getSource()==b){
                        l.removeAll();
                        if (cpp.getState()==true){
                                l.add("C++");
                                cpp.setState(false);
                        }
                        if (j.getState()==true){
                                l.add("Java");
                                j.setState(false);
                        }
                        if (p.getState()==true){
                                l.add("Python");
                                p.setState(false);
                        }
                }
        }
        public static void main(String[] args) {
                new list();
        }
}
```

4. In Java, Write a program by Usage of Frames and Text Box Classes.

```
import java.awt.*;
public class textarea {
        textarea() {
                Frame f = new Frame();
                TextArea area = new TextArea("Welcome to java");
                area.setBounds(10, 30, 200, 100);
                f.add(area);
                f.setSize(250, 200);
                f.setLayout(null);
                f.setVisible(true);
        }
        public static void main(String args[]) {
                new textarea();
        }
}
```

5. In Java, Write a program by Usage of Frames and Choice Classes.

```
import java.awt.*;
import java.awt.event.*;
class choice extends Frame implements ActionListener{
  Button b = new Button("Get");
  TextField t = new TextField();
        Choice c = new Choice();
  choice(){
    c.setBounds(50, 50, 150, 100);
                c.add("Networks");
                c.add("Bussiness intelligence");
                b.setBounds(100, 100, 50, 25);
                b.addActionListener(this);
                t.setBounds(60,140, 140, 25);
    add(c);add(b);add(t);
    setSize(250,250);
    setLayout(null);
    setVisible(true);
```

```
  }
        public void actionPerformed(ActionEvent e) {
                String a = c.getSelectedItem();
                t.setText(a);
        }
        public static void main(String[] args) {
                new choice();
        }
}
```

6. In Java, write a program using BorderLayout class.

```
import java.awt.*;
public class BL extends Frame {
        Button n,s,e,w,c;
        BL(){
                n = new Button("North");
                s = new Button("South");
                e = new Button("East");
                w = new Button("West");
                c = new Button("Center");
                setSize(300, 300);
                add(n,BorderLayout.NORTH);
                add(s,BorderLayout.SOUTH);
                add(e,BorderLayout.EAST);
                add(w,BorderLayout.WEST);
                add(c,BorderLayout.CENTER);
                setVisible(true);
                setLayout(new BorderLayout());
        }
        public static void main(String[] args) {
                new BL();
        }
}
```

7. In Java, write a program using FlowLayout class.

```
import java.awt.*;
public class FL extends Frame {
	FL(){
		Button b1=new Button("1");
		Button b2=new Button("2");
		Button b3=new Button("3");
		Button b4=new Button("4");
		Button b5=new Button("5");
		add(b1);add(b2);add(b3);add(b4);add(b5);
		setLayout(new FlowLayout(FlowLayout.LEFT));
		setSize(200,200);
		setVisible(true);
	}
	public static void main(String[] args) {
		new FL();
	}
}
```

8. In Java, write a program using GridLayout class.

```
import java.awt.*;
public class GL extends Frame {
	GL(){
		Button b1=new Button("1");
		Button b2=new Button("2");
		Button b3=new Button("3");
		Button b4=new Button("4");
		Button b5=new Button("5");
		add(b1);add(b2);
		add(b3);add(b4);
		setLayout(new GridLayout(2,2,20,20));
		setSize(200,200);
		setVisible(true);
	}
	public static void main(String[] args) {
		new GL();
	}
}
```

9. In Java, write a program using CardLayout class.

```
import java.awt.*;
import java.awt.event.*;
class CL extends Frame implements ActionListener {
        CardLayout card = new CardLayout(20,20);
        CL() {
                setLayout(card);
                Button first = new Button("first ");
                Button Second = new Button ("Second");
                Button Third = new Button("Third");
                add(first);add(Second);add(Third);
                first.addActionListener(this);
                Second.addActionListener(this);
                Third.addActionListener(this);
                setSize(220,150);
                setResizable(false);
                setVisible(true);
        }
        public void actionPerformed(ActionEvent e) {
                card.next(this);
        }
        public static void main(String args[]) {
                new CL();
        }
}
```

10. In Java, write a program Placing a TextField and a Button on a APPLET.

```
import java.applet.*;
import java.awt.*;
import java.awt.event.*;
public class EventApplet extends Applet implements ActionListener{
        Button b;
        TextField tf;
        public void init(){
                tf=new TextField();
```

```
                tf.setBounds(30,40,150,20);
                b=new Button("Click");
                b.setBounds(80,150,60,50);
                add(b);add(tf);
                b.addActionListener(this);
                setSize(300, 300);
                setLayout(null);
        }
        public void actionPerformed(ActionEvent e){
                tf.setText("Welcome");
        }
}
/*
<applet code="EventApplet.class" width="300" height="300">
</applet>
*/
```

11. In Java, write a class named First() to implement an Applet using html tags and run it using appletviewer command [import applet,graphics] and print a text “Welcome to applet” .

```
import java.applet.Applet;
import java.awt.Graphics;
public class First extends Applet {
        public void paint(Graphics g) {
                g.drawString("Welcome to applets", 20, 20);
        }
}
/*
<applet code="First.class" width="200" height="200">
</applet>
*/
```

12. In Java, write a program to create an array of students using ArrayList class from List Collection interface.

```
import java.util.*;
class AL {
```

```
        public static void main(String args[]){
                System.out.println("....Using Arrays....");
                ArrayList<String> al1=new ArrayList<String>();
                al1.add("Ravi");
                al1.add("Kiran");
                System.out.println(al1);
                Iterator<String> itr1 = al1.iterator();
                while(itr1.hasNext()){
                        System.out.println(itr1.next());
                }
        }
}
```

13. In Java, write a program to create a list of students using LinkedList class from List Collection interface.

```
import java.util.*;
class LL {
        public static void main(String args[]){
                System.out.println("\n....Using Linked List....");
                LinkedList<String> al2 = new LinkedList<String>();
                al2.add("Ravi");
                al2.add("Ammi");
                al2.add("Bharath");
                System.out.println(al2);
                Iterator<String> itr2 = al2.iterator();
                while(itr2.hasNext()){
                        System.out.println(itr2.next());
                }
        }
}
```

14. In Java, write a program on sorting students Reg.No. using Map Interface.

```
import java.util.*;
class MapEx {
        public static void main(String args[]){
                Map<Integer,String> map = new HashMap<Integer,String>();
```

```
                map.put(554,"Ravi");
                map.put(542,"Ammi");
                map.put(544,"Bharath");
                TreeMap<Integer,String> tm = new TreeMap<Integer,String>(map);
                for(Map.Entry i:tm.entrySet()){
                System.out.println(i.getKey()+" "+i.getValue());
                }
        }
}
```

15. In Java, write a program to print the list of students using Iterator interface.

```
import java.util.ArrayList;
import java.util.Iterator;
public class ITR {
  public static void main(String[] args) {
    ArrayList<Integer> al = new ArrayList<Integer>();
    for(int i = 0; i < 10; i++)
      al.add(i);
    System.out.println(al);
    Iterator<Integer> itr = al.iterator();
                System.out.print("Odd Numbers : ");
    while (itr.hasNext()) {
                        int i = itr.next();
      if (i % 2 != 0)
      System.out.print(i + " ");
    }
  }
}
```