

Number system conversion

*Number system conversion - The number system conversion is to convert the one number system to another by means of Frames
In this we have inserted the conversions like.*

- *Decimal to Binary converter*
- *Decimal to hexadecimal converter*
- *Decimal to octal converter*
- *Binary to Decimal converter*
- *Binary to hexadecimal*
- *Binary to octal converter*

Program:

```
packagenumber.converter;
import java.awt.*;
import java.awt.event.*;
class NumberConverter {
    Font myFont = new Font("copper black", Font.BOLD, 14);
    Font Font1 = new Font("forte", Font.ITALIC, 12);
    Font Font2 = new Font("arial black", Font.BOLD, 14);
    int flag;
    Frame f = new Frame();

    NumberConverter () {
        Label l1 = new Label("NUMBER SYSTEM CONVERSION");
        l1.setBounds(75, 50, 250, 20);
        l1.setForeground(Color.blue);
        CheckboxGroup cbg = new CheckboxGroup();
        Checkbox checkBox1 = new Checkbox("Decimal to Binary converter", cbg, false);
        checkBox1.setBounds(100, 100, 300, 25);
        Checkbox checkBox2 = new Checkbox("Decimal to hexadecimal converter", cbg, false);
        checkBox2.setBounds(100, 140, 300, 25);
        Checkbox checkBox3 = new Checkbox("Decimal to octal converter", cbg, false);
        checkBox3.setBounds(100, 180, 300, 25);
        Checkbox checkBox4 = new Checkbox("Binary to Decimal converter", cbg, false);
        checkBox4.setBounds(100, 220, 300, 25);
        Checkbox checkBox5 = new Checkbox("Binary to hexadecimal converter", cbg, false);
        checkBox5.setBounds(100, 260, 300, 25);
        Checkbox checkBox6 = new Checkbox("Binary to octal converter", cbg, false);
        checkBox6.setBounds(100, 300, 300, 25);
        f.add(checkBox1);
        f.add(checkBox2);
```

```
f.add(checkBox3);
f.add(checkBox4);
f.add(checkBox5);
f.add(checkBox6);
f.setBackground(Color.cyan);
l1.setFont(myFont);
```

```
checkBox1.setForeground(Color.RED);
checkBox1.setFont(Font2);
checkBox2.setForeground(Color.RED);
checkBox2.setFont(Font2);
checkBox3.setForeground(Color.RED);
checkBox3.setFont(Font2);
checkBox4.setForeground(Color.RED);
checkBox4.setFont(Font2);
checkBox5.setForeground(Color.RED);
checkBox5.setFont(Font2);
checkBox6.setForeground(Color.RED);
checkBox6.setFont(Font2);
```

```
f.add(l1);
f.setSize(400,400);
f.setLayout(null);
f.setVisible(true);
```

```
f.addWindowListener(new WindowAdapter()
{
    public void windowClosing(WindowEvent e)
    {
        f.dispose();
    }
});
checkBox1.addItemListener(new ItemListener(){
    public void itemStateChanged(ItemEvent e){
        flag=0;
        secondframe f=new secondframe();
    }
});
checkBox2.addItemListener(new ItemListener(){
    public void itemStateChanged(ItemEvent e){
        flag=1;
        secondframe f=new secondframe();
    }
});
checkBox3.addItemListener(new ItemListener(){
    public void itemStateChanged(ItemEvent e){
```

```
flag=2;
secondframe f=new secondframe();
    }
});
```

```
checkBox4.addItemListener(new ItemListener(){
public void itemStateChanged(ItemEvent e){
flag=3;
secondframe f=new secondframe();
    }
});
```

```
checkBox5.addItemListener(new ItemListener(){
public void itemStateChanged(ItemEvent e){
flag=4;
secondframe f=new secondframe();
    }
});
```

```
checkBox6.addItemListener(new ItemListener(){
public void itemStateChanged(ItemEvent e){
flag=5;
secondframe f=new secondframe();
    }
});
}
```

classsecondframe implements ActionListener

```
{
    Frame f1=new Frame();
    Label l1=new Label("Enter Number :");
    Label l3=new Label("Result :");
    TextField t1=new TextField();
    TextField t3=new TextField();
    Button b1=new Button("convert");
    Button b2=new Button("cancel");
    publicsecondframe()
    {
    switch(flag)
    {
    case 0:
        {
            Label l2=new Label("DECIMAL TO BINARY CONVERTER");
            l2.setBounds(75,50,250,20);
            f1.add(l2);
```

```

break;
    }
case 1:
{ Label l2=new Label("DECIMAL TO HEXADECIMAL CONVERTER");
l2.setBounds(75,50,250,20);
f1.add(l2);
break;
    }
case 2:
    { Label l2=new Label("DECIMAL TO OCTAL CONVERTER");
l2.setBounds(75,50,250,20);
f1.add(l2);

break;
    }
case 3:
    { Label l2=new Label("BINARY TO DECIMAL CONVERTER");
l2.setBounds(80,50,250,20);
f1.add(l2);
break;
    }
case 4:
    { Label l2=new Label("BINARY TO OCTAL CONVERTER");
l2.setBounds(80,50,250,20);
f1.add(l2);
break;
    }
case 5:
    { Label l2=new Label("BINARY TO HEXADECIMAL CONVERTER");
l2.setBounds(80,50,250,20);
f1.add(l2);
break;
    }
}

l1.setBounds(50,100,100,20);
l3.setBounds(50,180,100,20);
t1.setBounds(200,100,100,20);
t3.setBounds(200,180,100,20);
b1.setBounds(100,250,50,20);
b2.setBounds(170,250,50,20);

l1.setFont(myFont);
l3.setFont(myFont);
b1.setFont(Font1);
b2.setFont(Font1);

```

```

b1.setBackground(Color.black);
b2.setBackground(Color.black);
b1.setForeground(Color.yellow);
b2.setForeground(Color.yellow);
f1.setBackground(Color.pink);
l1.setForeground(Color.blue);
l3.setForeground(Color.blue);

f1.add(l1);
f1.add(l3);
f1.add(t1);
f1.add(t3);
f1.add(b1);
f1.add(b2);

b1.addActionListener(this);
b2.addActionListener(this);
f1.setLayout(null);
f1.setVisible(true);
f1.setSize(400,350);

f1.addWindowListener(new WindowAdapter()
{
    public void windowClosing(WindowEvent e)
    {
        f1.dispose();
    }
});

public void actionPerformed(ActionEvent e)
{
    int n1=Integer.parseInt(t1.getText());
    String n= (t1.getText());
    if(e.getSource()==b1)
    {
        switch(flag)
        {
            case 0:
                {
                    t3.setText(String.valueOf(Integer.toBinaryString(n1)));
                    break;
                }
            case 1:
                {
                    t3.setText(String.valueOf(Integer.toHexString(n1)));
                }
        }
    }
}

```

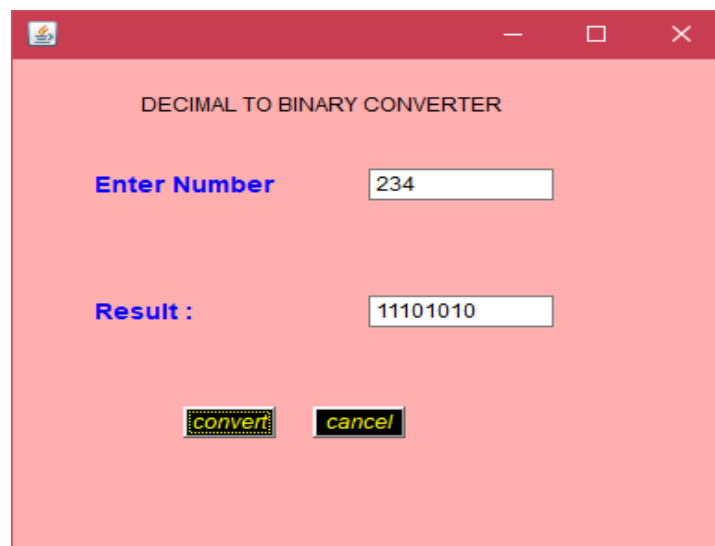
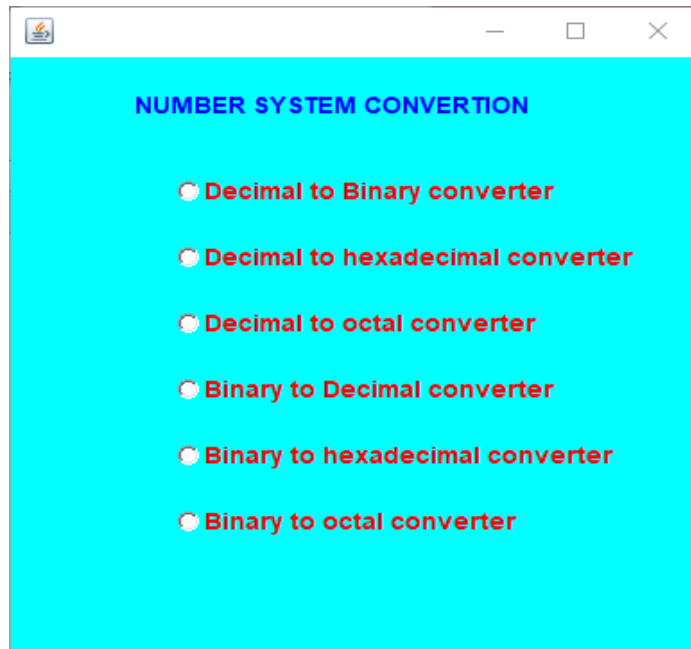
```


break;
    }
case 2:
    {
t3.setText(String.valueOf( Integer.toOctalString(n1)));
break;
    }
case 3:
    {
t3.setText(String.valueOf(Integer.parseInt(n,2)));
break;
    }
case 4:
    {
int hex = Integer.parseInt(n, 2);
    //String hexadecimal = Integer.toHexString(hex);
t3.setText(String.valueOf(Integer.toHexString(hex)));
break;
    }
case 5:
    {
int oct = Integer.parseInt(n, 2);
    //String hexadecimal = Integer.toHexString(hex);
t3.setText(String.valueOf(Integer.toOctalString(oct)));
break;
    }
    }
    }
if(e.getSource()==b2)
    {
System.exit(0);
    }
}

public static void main(String[] args) {
newNumberConverter();
}
}

```

Output





—

□

×

DECIMAL TO HEXADECIMAL CONVERTER

Enter Number


126

Result :

7e

convert

cancel



—

□

×

DECIMAL TO OCTAL CONVERTER

Enter Number


53

Result :

65

convert


cancel

 — □ ×

BINARY TO DECIMAL CONVERTER

Enter Number


Result :

 — □ ×

BINARY TO HEXADECIMAL CONVERTER

Enter Number

Result :



—

□

×

BINARY TO OCTAL CONVERTER

Enter Number

110101

Result :

65

convert

cancel