

```

/*
 * Chris Tjon - Wed 4pm - Ex 8.3 - Milky Way Program
 */
package milkyway;

import java.awt.*;
import java.applet.Applet;

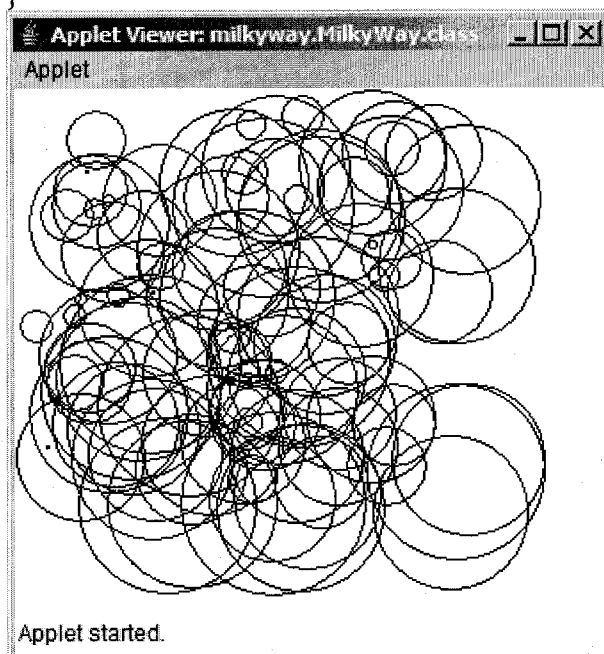
public class MilkyWay extends Applet
{
    private Scrollbar lengthBar, heightBar;
    private int height = 100, length = 100;

    public void paint(Graphics g)
    {
        int xpos;
        int ypos;
        int diameter;

        for (int i = 0; i < 100; i++)
        {
            xpos = (int)((Math.random() * 200) + 1);
            ypos = (int)((Math.random() * 200) + 1);
            diameter = (int)((Math.random() * 100) + 1);
            g.drawOval(xpos, ypos, diameter, diameter);
        }
    }
}

```

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demo

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/*
 * Chris Tjon - Wed 4pm - Ex 8.8 - Multiplication Table
 */
package multiplication;

import java.awt.*;
import java.applet.*;

public class TimesTable extends Applet
{
    private int size = 12;

    public void paint (Graphics g)
    {
        for (int i = 1; i <= size; i++)
        {
            for (int j = 1; j <= size; j++)
            {
                int result = i * j;
                g.drawString("" + (i * j), i * 25, j * 25);
            }
        }
    }
}

```

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demo-011
missing 1's column
- 1

Applet Viewer: multiplication.TimesTable.class

Applet

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

Applet started.

```
/*
 * Chris Tjon - Wed 4pm - Ex 7.8 - Calculator Program
 */
package calculator;

import java.applet.*;
import java.awt.*;
import java.awt.event.*;

public class Calculator extends Applet implements ActionListener
{
    private Button one, two, three, four, five, six, seven,
                  eight, nine, zero, plus, minus, equals, clear;

    private int input;
    private int total;

    public void init()
    {
        one = new Button("1");
        add(one);
        one.addActionListener(this);

        two = new Button("2");
        add(two);
        two.addActionListener(this);

        three = new Button("3");
        add(three);
        three.addActionListener(this);

        four = new Button("4");
        add(four);
        four.addActionListener(this);

        five = new Button("5");
        add(five);
        five.addActionListener(this);

        six = new Button("6");
        add(six);
        six.addActionListener(this);

        seven = new Button("7");
        add(seven);
        seven.addActionListener(this);

        eight = new Button("8");
        add(eight);
        eight.addActionListener(this);

        nine = new Button("9");
```

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demo OK

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add (nine);
nine.addActionListener(this);

zero = new Button ("0");
add (zero);
zero.addActionListener(this);

plus = new Button ("+");
add (plus);
plus.addActionListener(this);

minus = new Button ("-");
add (minus);
minus.addActionListener(this);

equals = new Button ("=");
add (equals);
equals.addActionListener(this);

clear = new Button ("Clear");
add (clear);
clear.addActionListener(this);
}

public void paint(Graphics g)
{
    g.drawString ("Input = " + input, 50,130);
    g.drawString ("Total = " + total, 50,150);
}

public void actionPerformed(ActionEvent event) {
    if (event.getSource() == one)
        input = (input * 10) + 1;

    if (event.getSource() == two)
        input = (input * 10) + 2;

    if (event.getSource() == three)
        input = (input * 10) + 3;

    if (event.getSource() == four)
        input = (input * 10) + 4;

    if (event.getSource() == five)
        input = (input * 10) + 5;

    if (event.getSource() == six)
        input = (input * 10) + 6;

    if (event.getSource() == seven)
        input = (input * 10) + 7;
}

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        if (event.getSource() == eight)
            input = (input * 10) + 8;

        if (event.getSource() == nine)
            input = (input * 10) + 9;

        if (event.getSource() == zero)
            input = (input * 10) + 0;

        if (event.getSource() == plus)
        {
            total += input;
            input = 0;
        }

        if (event.getSource() == minus)
        {
            total -= input;
            input = 0;
        }

        if (event.getSource() == equals)
            input = total;

        if (event.getSource() == clear)
        {
            input = 0;
            total = 0;
        }

        repaint();
    }
}

```

