



Q 2 Write a java program to design a list of 1000 integers.

Create a Java program to develop a desktop application with menu bar using action listeners.

import javax.swing.\*;  
import java.awt.Font;  
import java.awt.event.\*;

public class Assignment2 implements  
ActionListener {

JErone f.

J Menue Box m/s

J menu file, help, exit, about, clear

J Tent Area, ta;

assignment 2.C ) }  
f = new JFrame("Menus for Application")

by Vicki L.  
L = New Label ("Enter your tent here")

L. Set Bellarda (200,10,200,30)  
L. Set Font(new Font ("Times New Roman",

f. add ( ),

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```
mb = new JMenuBar();
file = new JMenu ("File");
mb.add (file);
exit = new JMenuItem ("Exit");
file.add (exit);
clear = new JMenuItem (clear);
file.add (clear);
help = new JMenu ("Help");
mb.add (help);
about = new JMenuItem ("About");
help.add (about);
ta = new JTextArea ();
JScrollPane scrollPane = new JScrollPane (ta);
scrollPane.setBounds (20, 40, 560, 190);
f.add (scrollPane);
f.setMenuBar (mb);
f.setSize (600, 300);
f.setLayout (null);
f.setVisible (true);
exit.addActionListener (this);
about.addActionListener (this);
clear.addActionListener (this);
```



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public void actionPerformed (ActionEvent e) {  
if (e.getSource() == exit) {  
System.exit(0); }  
if (e.getSource() == close) {  
to.setText(null); }  
if (e.getSource() == about) {  
JOptionPane.showMessageDialog(f, "Menu"); }  
} } } }

public static void main (String [] args) {  
    new assignment2 ();

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Menu Bar Application (MBA) - □ X

File      Edit      Help  
Enter your text here

100

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<p>Q3 What is java layout manager explain border layout , flow layout , grid layout and grid bag layout with examples</p>	

In a frame is an object that contains the arrangement and sizing of components within a container (such as a Frame or JPanel). It automatically resizes components based on its rule and container's size, ensuring that the layout adopts to changes in the window size.

## Types of Layout manager

## Border Layout

Laguna

## OBUS Layout

Border Layout divides the container.

into five regions: North, South, East, West, and Center. Each region can contain one component, and the components



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adjust the size of the components based on the container's size. It is commonly used for application layout where you need distinct section.

import java.awt.\*;  
import javax.swing.\*;

```
public class BorderLayout {
    public static void main (String [] args) {
        JFrame frame = new JFrame ("Border Layout");
        frame.setLayout (new BorderLayout ());
    }
}
```

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Flow Layout The flow layout arranges component in a left-to-right flow, similar to text in a paragraph. If the container's width is exceeded, the component wrap to the next line. It is useful for simple layout with dynamically sized components, like button in a toolbar.

```
frame.add (b1, BorderLayout.NORTH);
frame.add (b2, BorderLayout.SOUTH);
frame.add (b3, BorderLayout.EAST);
frame.add (b4, BorderLayout.WEST);
```

Border layout example

West	Center	North	East
------	--------	-------	------

frame.add (b4, BorderLayout.EAST);  
frame.add (b5, BorderLayout.WEST);  
frame.add (b6, BorderLayout.CENTER);  
frame.setVisible (true);



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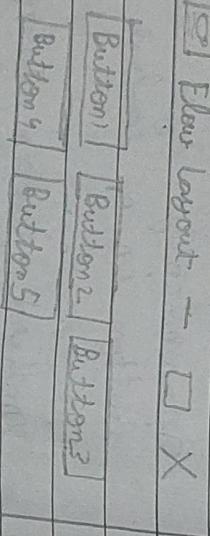
```
public class ElasLayout {
    public static void main(String[] args) {
        JFrame f = new JFrame("FlowLayout Sample");
        f.setSize(300, 200);
        f.setLayout(new FlowLayout());
    }
}
```

3 Grid Layout arranges component in a uniform grid with specified rows and columns. All component have same size and are placed in the grid from left to right and top to bottom.

```
import java.awt.*;
import java.awt.event.*;
```

```
public class GridLayout {
    public static void main(String[] args) {
        JFrame f = new JFrame("GridLayout");
        f.setSize(300, 200);
        f.setLayout(new GridLayout(2, 2));
    }
}
```

```
public class ElasLayout {
    JButton b1 = new JButton("Button1");
    JButton b2 = new JButton("Button2");
    JButton b3 = new JButton("Button3");
    JButton b4 = new JButton("Button4");
    JButton b5 = new JButton("Button5");
    JPanel p = new JPanel();
    p.add(b1);
    p.add(b2);
    p.add(b3);
    p.add(b4);
    p.add(b5);
    p.setLayout(new GridLayout(1, 5));
    ElasLayout elas = new ElasLayout();
    elas.setLayout(p);
}
```







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gbc.gridx = 0;

gbc.gridx = 2;

gbc.gridwidth = 1;

f. add (b4, gbc);

f. setVisible (true);

{  
}

 Grid Bag Layout example -

