UNTAR
Universitas Tarumanagara

UNTAR untuk INDONESIA

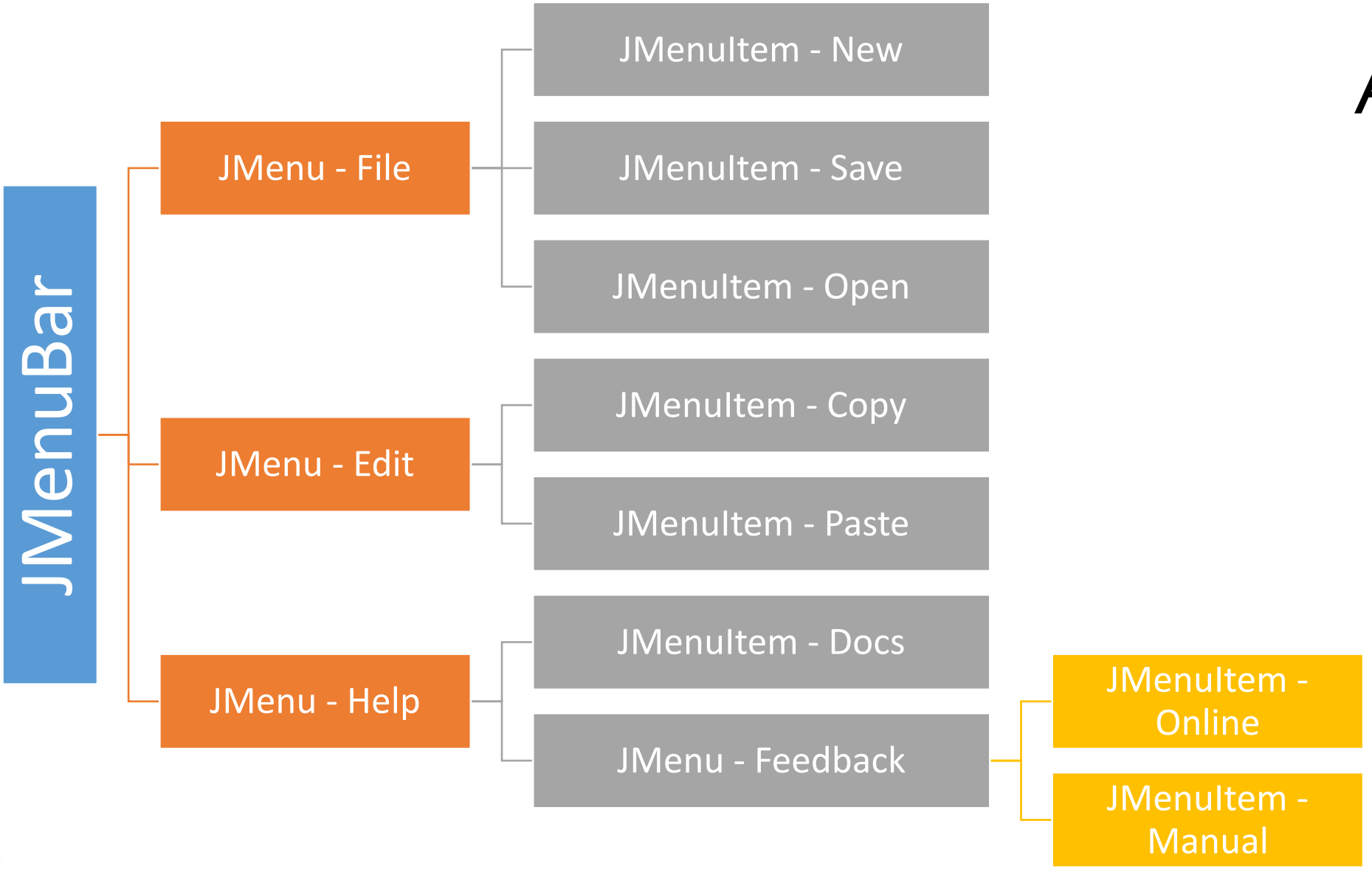
Object-based Programming

Week 10 – Graphical User Interface with Java Swing

Adding Menus

- JMenuBar
- JMenu
- JMenuItem

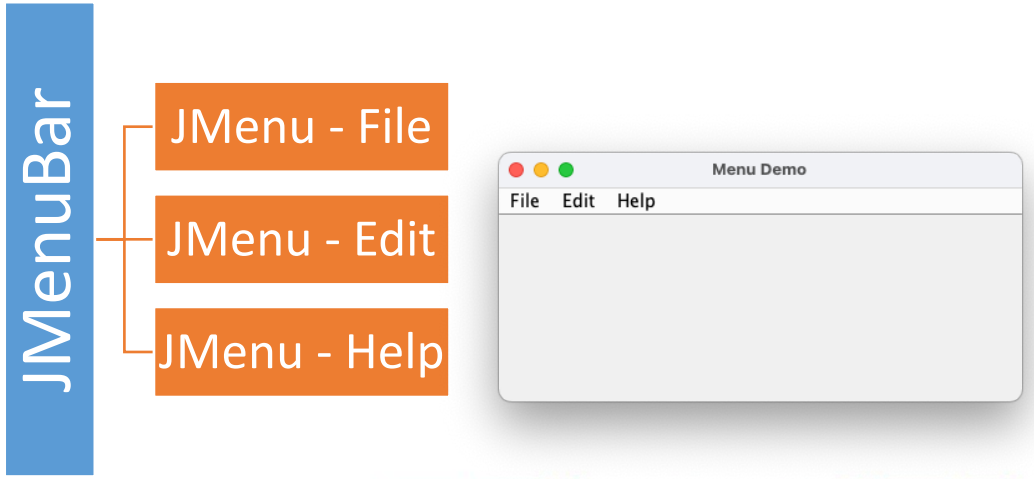
Adding Menus



UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Adding Menus

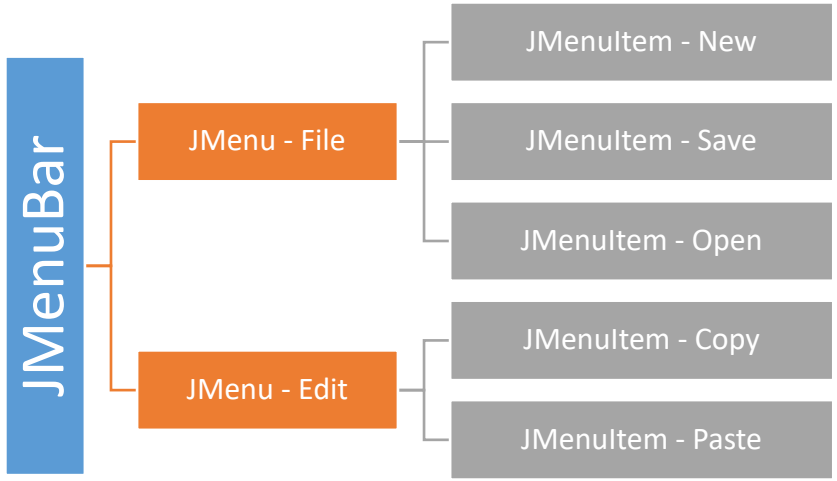
```
import javax.swing.*;

public class MenuDemo extends JFrame {
    public MenuDemo() {
        setTitle(“Menu Demo”);
        setSize(420, 200);
        setDefaultCloseOperation(EXIT_ON_CLOSE);

        JMenuBar mb = new JMenuBar();

        JMenu mFile = new JMenu(“File”);
        JMenu mEdit = new JMenu(“Edit”);
        JMenu mHelp = new JMenu(“Help”);

        mb.add(mFile);
        mb.add(mEdit);
        mb.add(mHelp);

        setJMenuBar(mb);

        setVisible(true);
    }
}
```

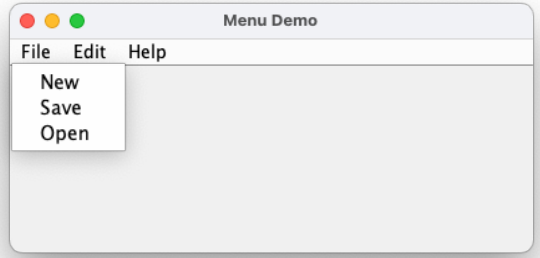


UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Adding Menus

```
...

JMenu mFile = new JMenu(“File”);

JMenuItem mNew = new JMenuItem(“New”);
JMenuItem mSave = new JMenuItem(“Save”);
JMenuItem mOpen = new JMenuItem(“Open”);

mFile.add(mNew);
mFile.add(mSave);
mFile.add(mOpen);

JMenu mEdit = new JMenu(“Edit”);

JMenuItem mCopy = new JMenuItem(“Copy”);
JMenuItem mPaste = new JMenuItem(“Paste”);

mEdit.add(mCopy);
mEdit.add(mPaste);

...
```

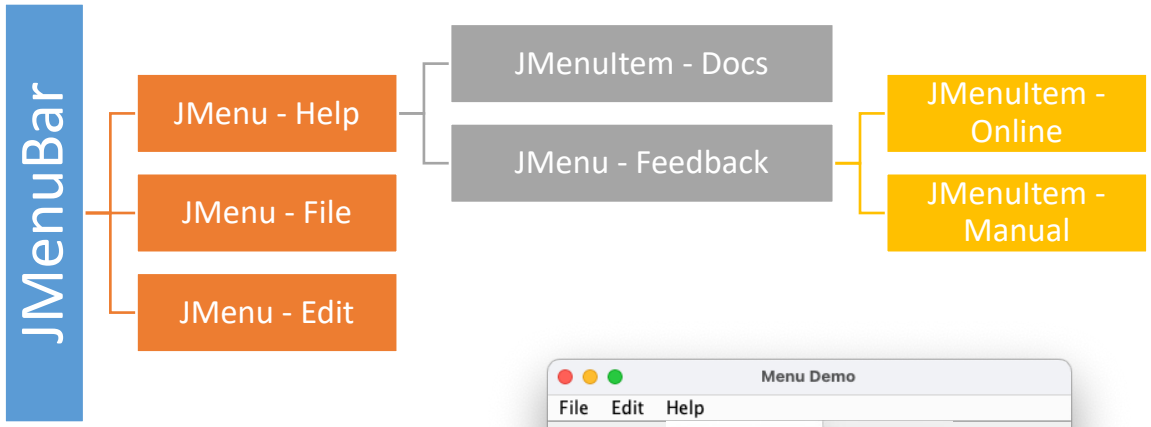


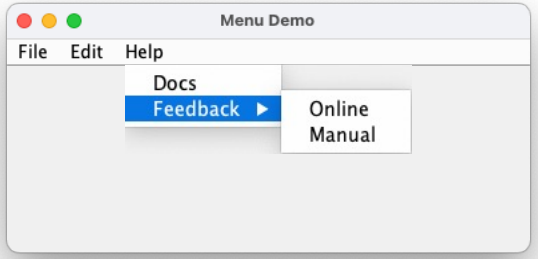


UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Adding Menus

```
...

JMenu mHelp = new JMenu(“Help”);

JMenuItem mDocs = new JMenuItem(“Docs”);

JMenu mFeedback = new JMenu(”Feedback”);
JMenuItem mOnline = new JMenuItem(”Online”);
JMenuItem mManual = new JMenuItem(“Manual”);

mFeedback.add(mOnline);
mFeedback.add(mManual);

mHelp.add(mDocs);
mHelp.add(mFeedback);

...
```

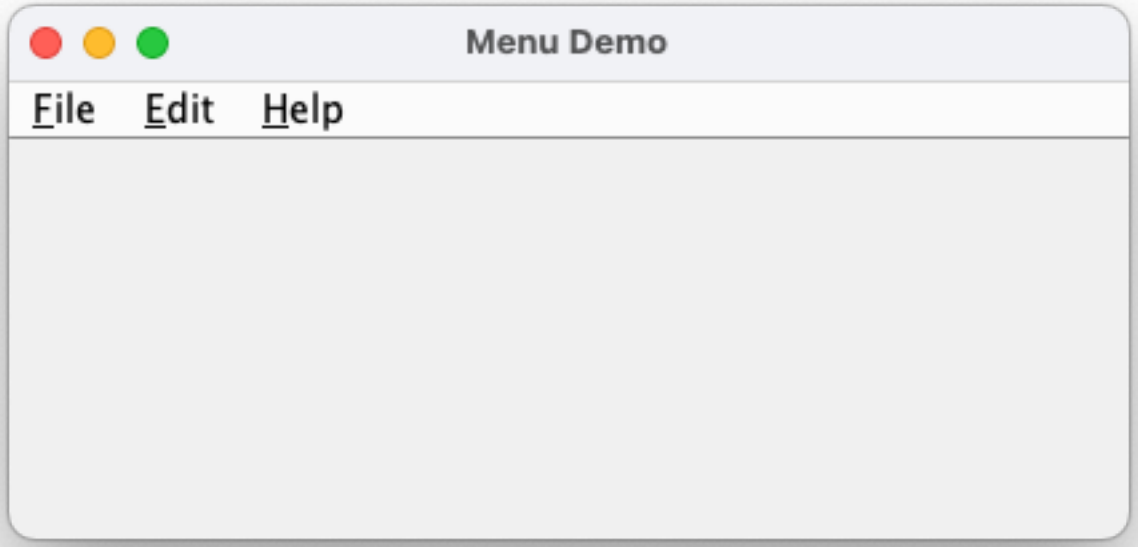




UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Shortcuts

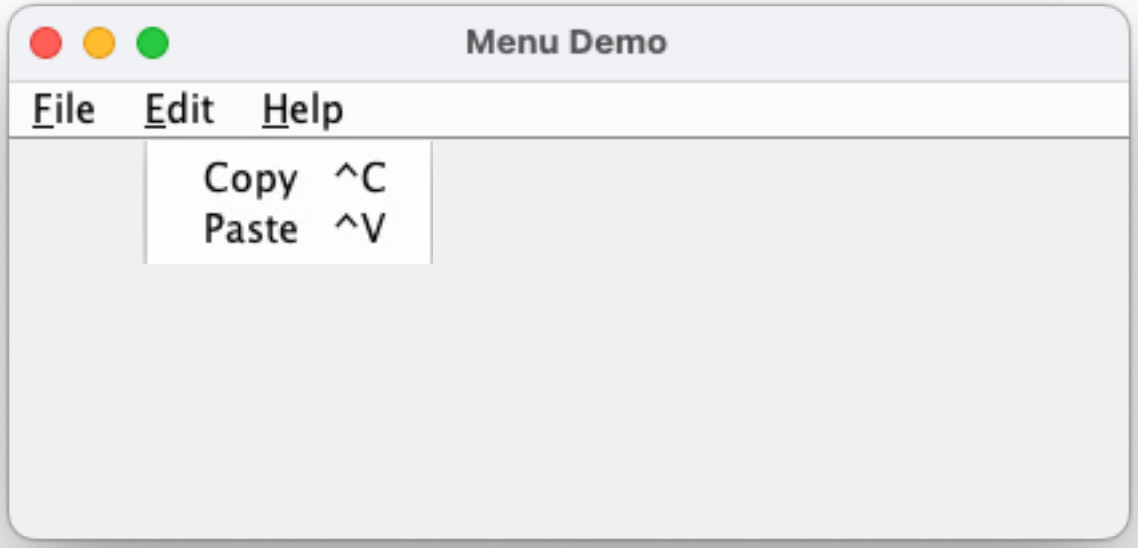
```
...

mFile.setMnemonic(KeyEvent.VK_F);
mEdit.setMnemonic(KeyEvent.VK_E);
mHelp.setMnemonic(KeyEvent.VK_H);

...
```



UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Accelerators

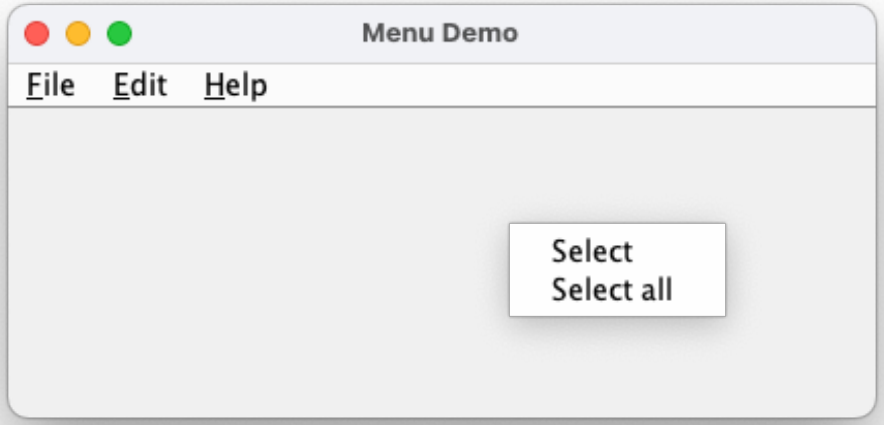
```
...

mCopy.setAccelerator(KeyStroke.getKeyStroke(
    KeyEvent.VK_C,
    InputEvent.CTRL_DOWN_MASK
));

mPaste.setAccelerator(KeyStroke.getKeyStroke(
    KeyEvent.VK_V,
    InputEvent.CTRL_DOWN_MASK
));
...
```



UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Popup Menu

```
...

JPopupMenu p = new JPopupMenu();

JMenuItem mSelect = new JMenuItem("Select");
JMenuItem mSelectAll = new JMenuItem("Select all");

p.add(mSelect);
p.add(mSelectAll);

addMouseListener(new MouseAdapter() {
   public void mousePressed(MouseEvent e) {
      if (e.isPopupTrigger())
         p.show(e.getComponent(), e.getX(), e.getY());
   }

   public void mouseReleased(MouseEvent e) {
      if (e.isPopupTrigger())
         p.show(e.getComponent(), e.getX(), e.getY());
   }
});

...
```



UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Layout Managers

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

FlowLayout

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

public class Demo extends JFrame {
    public Demo() {
        setTitle(“FlowLayout Example”);
        setSize(500, 300);

        setLayout(new FlowLayout());

        add(new JButton(“first”));
        add(new JButton(“second”));
        add(new JButton(“the third string is a long one”));
        add(new JButton(“fourth”));
        add(new JButton(“fifth”));

        setVisible(true);
    }
}
```

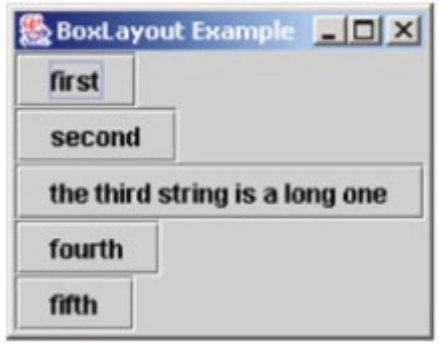
UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

BorderLayout

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

public class Demo extends JFrame {
    public Demo() {
        setTitle(“BorderLayout Example”);
        setSize(500, 300);

        setLayout(new BorderLayout());

        add(new JButton(“North”), BorderLayout.NORTH);
        add(new JButton(“East”), BorderLayout.EAST);
        add(new JButton(“South”), BorderLayout.SOUTH);
        add(new JButton(“West”), BorderLayout.WEST);
        add(new JButton(“Center”), BorderLayout.CENTER);

        setVisible(true);
    }
}
```

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

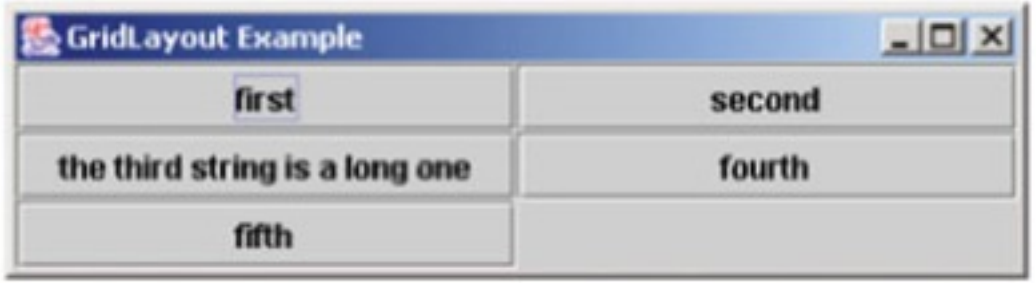
BoxLayout



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

public class Demo extends JFrame {
    public Demo() {
        setTitle(“BoxLayout Example”);
        setSize(500, 300);

        setLayout(new BoxLayout(getContentPane(), BoxLayout.Y_AXIS)); // X_AXIS

        add(new JButton(“first”));
        add(new JButton(“second”));
        add(new JButton(“the third string is a long one”));
        add(new JButton(“fourth”));
        add(new JButton(“fifth”));

        setVisible(true);
    }
}
```

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

GridLayout




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

public class Demo extends JFrame {
    public Demo() {
        setTitle(“GridLayout Example”);
        setSize(500, 300);

        setLayout(new GridLayout(3, 2));

        add(new JButton(“first”));
        add(new JButton(“second”));
        add(new JButton(“the third string is a long one”));
        add(new JButton(“fourth”));
        add(new JButton(“fifth”));

        setVisible(true);
    }
}
```

CardLayout

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

public class Demo extends JFrame {
   public Demo() {
      setTitle(“CardLayout Example”);
      setSize(500, 300);

      // part 1
      String cbItems[] = {
         “Card 1”, “Card 2”
      };
      JComboBox cb = new JComboBox(
         cbItems);
      cb.setEditable(false);

      // part 2
      JPanel cbPanel = new JPanel();
      cbPanel.add(cb);

      // part 3
      JPanel card1 = new JPanel();
      card1.add(new JButton(“a”));
      card1.add(new JButton(“b”));
      card1.add(new JButton(“c”));

      // part 4
      JPanel card2 = new JPanel();
      card2.add(new JTextField(8));

      // part 5

      // part 6

      setVisible(true);
   }
}
```

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

CardLayout

```
// part 5
JPanel cards = new JPanel(new CardLayout());
cards.add(card1, “Card 1”);
cards.add(card2, “Card 2”);

// part 6
cb.addItemListener(new ItemListener() {
    public void itemStateChanged(ItemEvent e) {
        CardLayout c = (CardLayout) cards.getLayout();
        c.show(cards, (String) e.getItem());
    }
});

add(cbPanel, BorderLayout.NORTH);
add(cards,   BorderLayout.CENTER);
```

GridBagLayout

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

public class Demo extends JFrame {
   public Demo() {
      setTitle(“GridBagLayout Example”);
      setSize(500, 300);
      setLayout(new GridBagLayout());

      GridBagConstraints c = new
           GridBagConstraints();

      // specify how a component is
      // resized if it is smaller than
      // its cell

      c.fill = GridBagConstraints.HORIZONTAL;

      // horizontal spacing between cells and
      // the edges of the container

      c.weightx = 0.5;
```

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

GridBagLayout

```
c.gridx = 0;
c.gridy = 0;
add(new JButton(“A”), c);

c.gridx = 1;
c.gridy = 0;
add(new JButton(“B”), c);

c.gridx = 2;
c.gridy = 0;
add(new JButton(“C”), c);

c.ipady = 40; // make this component tall
c.weigthx = 0.0;
c.gridwidth = 3; // width in terms of cell

c.gridx = 0;
c.gridy = 1;
add(new JButton(“D”), c);
```

GridBagLayout

```
        c.ipady = 0; // reset to default
        c.weigthy = 1.0;
        c.anchor = GridBagConstraints.SOUTH;
        c.insets = new Insets(10, 0, 0, 0); // padding

        c.gridwidth = 2; // width in terms of cell

        c.gridx = 1;
        c.gridy = 2;
        add(new JButton("E"), c);

        setVisible(true);
    }
}
```

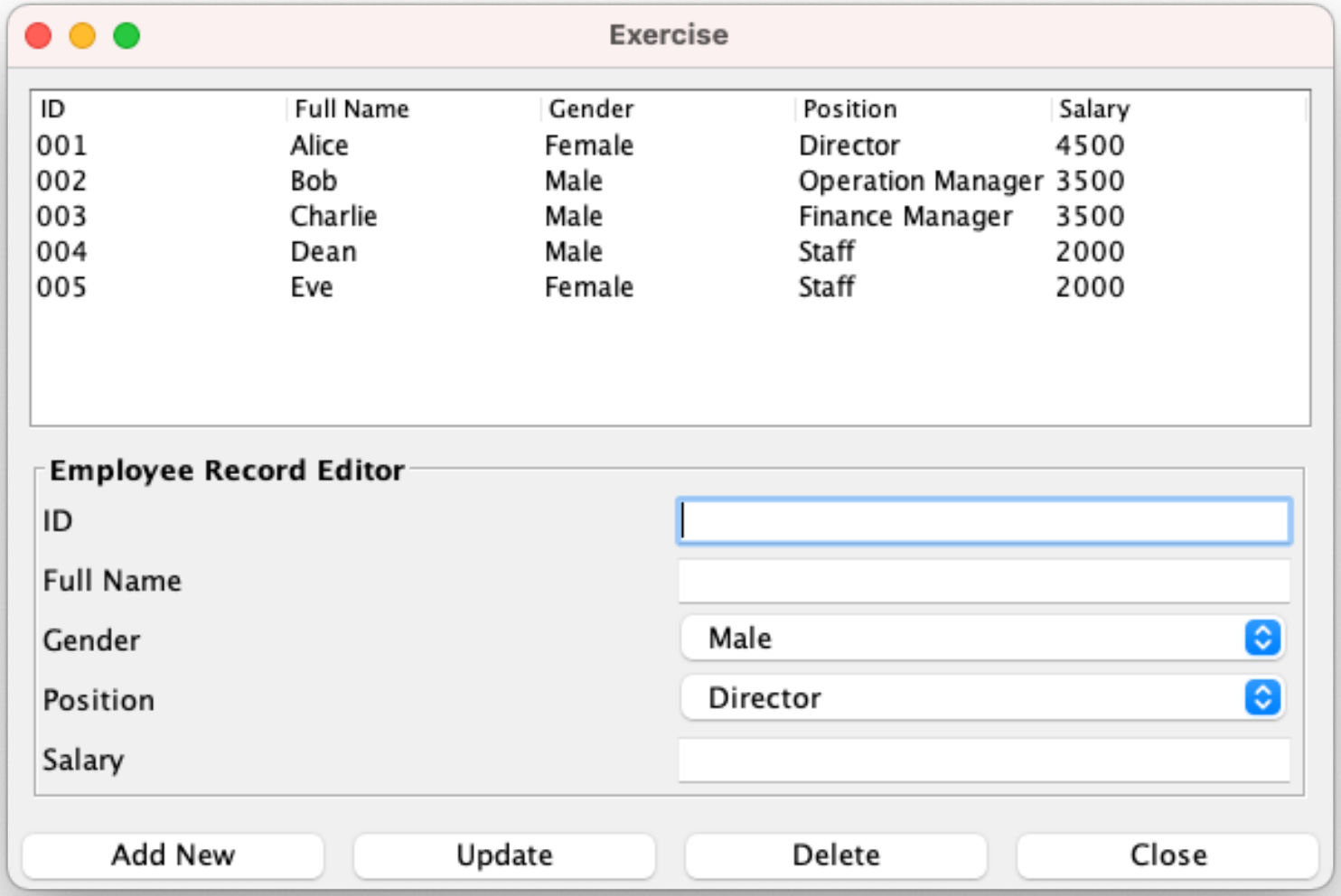
UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

The end.

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA

Latihan

UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA



UNTAR
Universitas Tarumanagara
UNTAR untuk INDONESIA