GRUPPE 1

Velkommen til
IN1010 – Uke 13

Plan for dagen

- GUI

GUI

- Graphical User Interface
- Gir brukeren et visuelt grensesnitt de kan interagere med
- Gjør programmet mer brukervennlig
- I IN1010 bruker vi AWT + Swing

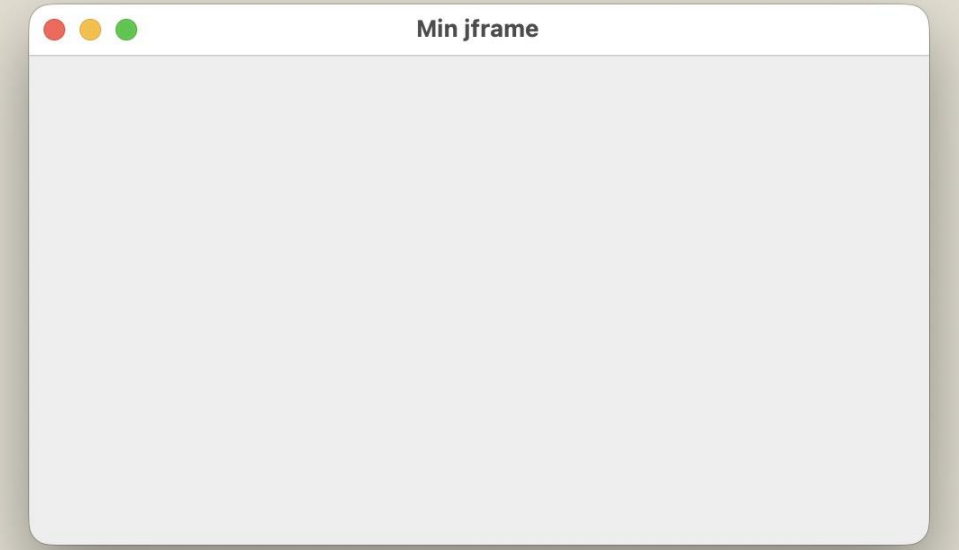
```java
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class GUI {
    Run | Debug
    public static void main(String[] args) {

        try {
            UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());
        } catch (Exception e) {
            System.exit(1);
        }

        JFrame vindu = new JFrame("Min jframe");
        vindu.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        vindu.setPreferredSize(new Dimension(500, 300));

        vindu.pack();
        vindu.setLocationRelativeTo(null);
        vindu.setVisible(true);
    }
}
```



Komponenter

- JFrame – vinduet som opprettes
- JPanel – et panel som inneholder andre objekter
- JLabel – Et objekt som viser en streng
- JButton – En knapp
- JTextField – Et tekstfelt bruker kan skrive i
- Mange flere!

```java
try {
    UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());
} catch (Exception e) {
    System.exit(1);
}

JFrame vindu = new JFrame("Min jframe");
vindu.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

JPanel panel = new JPanel();
JLabel tekst = new JLabel("Dette er en tekst");
JButton knapp = new JButton("Knapp");

panel.add(tekst);
panel.add(knapp);
vindu.add(panel);

vindu.pack();
vindu.setLocationRelativeTo(null);
vindu.setVisible(true);
```



Legge til funksjonalitet på knapp

```java
try {
    UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());
} catch (Exception e) {
    System.exit(1);
}

JFrame vindu = new JFrame("Min jframe");
vindu.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

JPanel panel = new JPanel();
vindu.add(panel);
JButton knapp = new JButton("Exit");

class Stopper implements ActionListener {
    @Override
    public void actionPerformed(ActionEvent e) {
        System.exit(0);
    }
}

knapp.addActionListener(new Stopper());
panel.add(knapp);

vindu.pack();
vindu.setLocationRelativeTo(null);
vindu.setVisible(true);
```



```java
static int teller = 0;

try {
    UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());
} catch (Exception e) {
    System.exit(1);
}

JFrame vindu = new JFrame("Teller");
vindu.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

JPanel panel = new JPanel();
vindu.add(panel);

JLabel tellerTekst = new JLabel("Tall: " + teller);
JButton knapp = new JButton("Øk teller");

knapp.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        teller++;
        tellerTekst.setText("Tall: " + teller);
    }
});

panel.add(tellerTekst);
panel.add(knapp);

vindu.pack();
vindu.setLocationRelativeTo(null);
vindu.setVisible(true);
```





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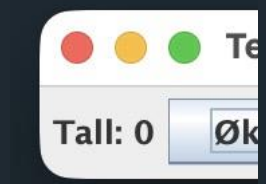
JPanel panel = new JPanel();
vindu.add(panel);

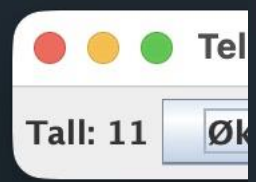
JLabel tellerTekst = new JLabel("Tall: " + teller);
JButton knapp = new JButton("Øk teller");

knapp.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        teller++;
        tellerTekst.setText("Tall: " + teller);
        vindu.pack();
    }
});

panel.add(tellerTekst);
panel.add(knapp);

vindu.pack();
vindu.setLocationRelativeTo(null);
vindu.setVisible(true);
```






```java
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JPanel panel =
vindu.add(pane

JLabel teller
JButton knapp

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    }
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panel.add(tellerTekst);
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Oppgaver/trix/oblig