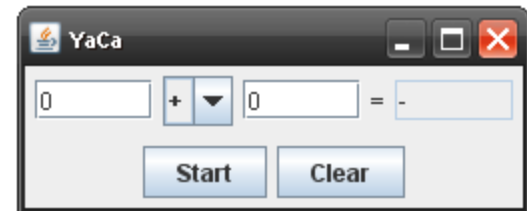


# Medientechnik

## Übung – Java Swing

# Heute

- (GUI-)Programmieren mit Eclipse
- Java Swing
  - Fenster erstellen
  - GUI-Komponenten hinzufügen
  - Layout-Manager nutzen



# Links

<http://download.oracle.com/javase/tutorial/uiswing/>

<http://openbook.galileocomputing.de/javainsel/>

<http://zetcode.com/tutorials/javaswingtutorial/>

# Eclipse

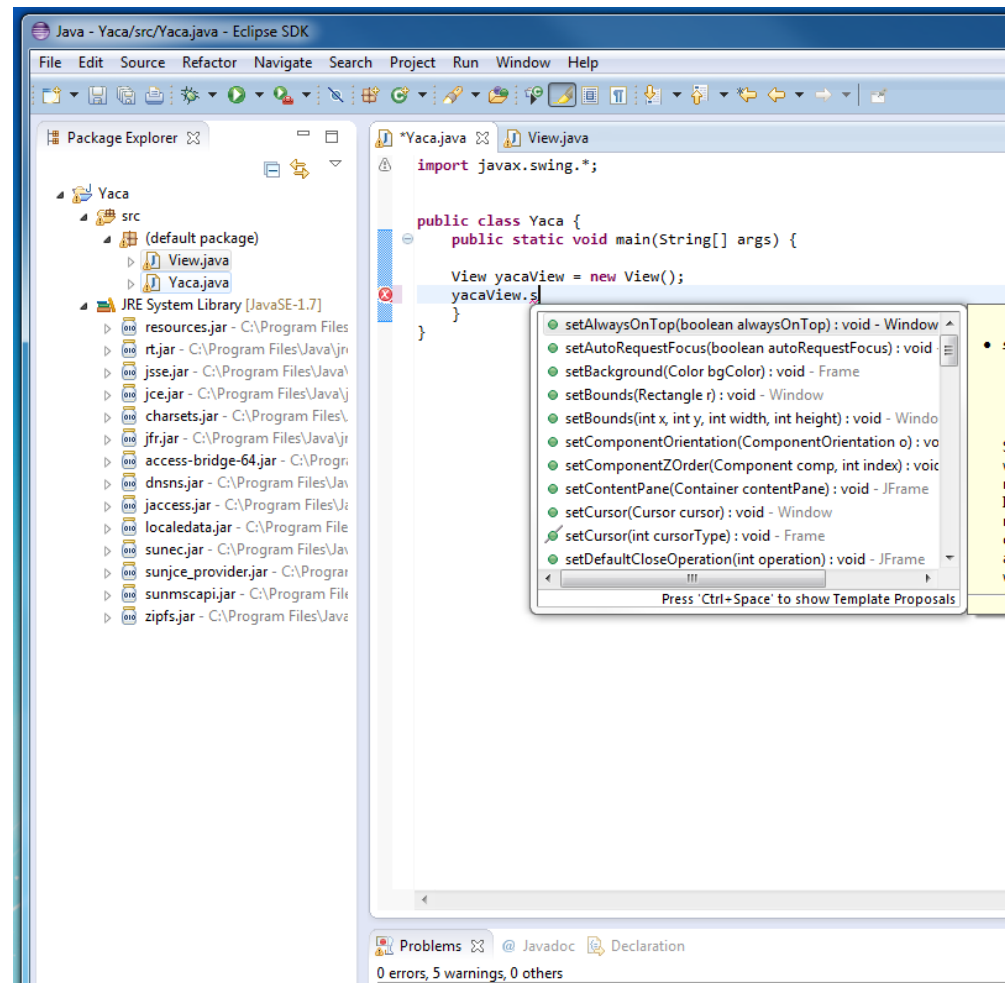
- Programmierwerkzeug (ursprünglich integrierte Entwicklungsumgebung für Java, mittlerweile auch für viele andere Programmiersprachen)

- Vorteile:

- Verschiedene Views
- Syntaxhighlighting
- Code Completion
- Code-Folding
- ...

- Shortcuts:

- Strg+Leertaste: Code Completion
- Strg+Linksklick auf Funktionsaufruf: Sprung zur Deklaration der Funktion
- Cursor über Variable: alle Vorkommen der Variable werden farbig unterlegt



# Eclipse

- Eclipse starten und Workspace festlegen
- Neues Java-Projekt anlegen
- 2 neue Klassen im default-package erstellen:
  - `Yaca.java`
  - `View.java`

# Java – main-Methode

```
public class Yaca {  
  
    public static void main(String[] args) {  
  
        View yacaView = new View();  
        yacaView.setVisible(true);  
    }  
}
```

# Swing - JFrame

```
import javax.swing.*;
```



```
public class View extends JFrame {
```

```
    public View() {
```

```
        this.setTitle("YetAnotherCalculator");
```

```
        this.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```
    }
```

```
}
```

# Swing - JPanel

```
import javax.swing.*;
```



```
public class View extends JFrame {
```

```
    public View() {
```

```
        this.setTitle("YetAnotherCalculator");
```

```
        this.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```
        JPanel contentAll = new JPanel();
```

```
        contentAll.setLayout(new BorderLayout());
```

```
    }
```

```
}
```



# Swing – JButton

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



```
public class View extends JFrame {
```

```
    public View() {  
        [...]
```

```
        JButton start = new JButton("Start");  
        JButton clear = new JButton("Clear");  
        contentAll.add(start, BorderLayout.SOUTH);  
        contentAll.add(clear, BorderLayout.SOUTH);
```

```
        this.setContentPane(contentAll);  
        this.pack();
```

```
    }  
}
```

View.java

# Swing – JButton

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

```
public class View extends JFrame {
```

```
    public View() {
```

```
        [...]
```

```
        JButton start = new JButton("Start");
```

```
        JButton clear = new JButton("Clear");
```

```
        JPanel contentButtons = new JPanel();
```

```
        contentButtons.setLayout(new FlowLayout());
```

```
        contentButtons.add(start);
```

```
        contentButtons.add(clear);
```

```
        contentAll.add(contentButtons, BorderLayout.SOUTH);
```

```
        this.setContentPane(contentAll);
```

```
        this.pack();
```

```
    }
```

```
}
```



View.java

# Swing – JTextField & JComboBox

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



```
public class View extends JFrame {
```

```
    public View() {  
        [...]
```

```
JTextField firstInput    = new JTextField(5);  
JTextField secondInput  = new JTextField(5);  
JTextField result       = new JTextField(5);  
String[] methods        = {"+", "-", "*", "/"};  
JComboBox methodBox    = new JComboBox(methods);
```

```
    this.setContentPane(contentAll);
```

```
    this.pack();
```

```
    }  
}
```

View.java

# Swing – JTextField & JComboBox

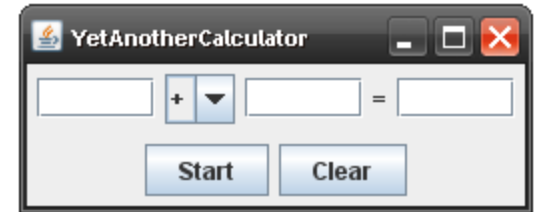
```
import java.awt.*;
import javax.swing.*;

public class View extends JFrame {

    public View() {
        [...]

        JPanel contentInput = new JPanel(new BorderLayout());
        contentInput.add(firstInput);
        contentInput.add(methodBox);
        contentInput.add(secondInput);
        contentInput.add(new JLabel("="));
        contentInput.add(result);
        contentAll.add(contentInput, BorderLayout.CENTER);

        this.setContentPane(contentAll);
        this.pack();
    }
}
```



View.java

# Swing – default-Werte ändern

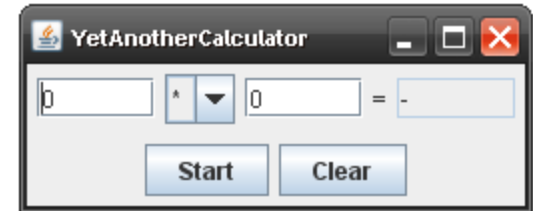
```
import java.awt.*;
import javax.swing.*;

public class View extends JFrame {

    public View() {
        [...]

        firstInput.setText("0");
        secondInput.setText("0");
        result.setText("-");
        result.setEditable(false);
        methodBox.setSelectedIndex(2);

        this.setContentPane(contentAll);
        this.pack();
    }
}
```



View.java

# Swing – Window-Position

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

public class View extends JFrame {

    public View() {
        [...]

        this.setContentPane(contentAll);
        this.pack();

        this.setLocation(100, 100);
    }
}
```