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Vedlegg 1 Class JFrame

Class JFrame

[java.lang.Object](#)

[java.awt.Component](#)

[java.awt.Container](#)

[java.awt.Window](#)

[java.awt.Frame](#)

[javax.swing.JFrame](#)

All Implemented Interfaces:

[ImageObserver](#), [MenuContainer](#), [Serializable](#), [Accessible](#), [RootPaneContainer](#), [WindowConstants](#)

```
public class JFrame
extends Frame
implements WindowConstants, Accessible, RootPaneContainer
```

Constructor Summary

Constructors

Constructor and Description

[JFrame\(\)](#)

Constructs a new frame that is initially invisible.

[JFrame\(String title\)](#)

Creates a new, initially invisible `Frame` with the specified title.

Method Summary

All MethodsStatic MethodsInstance MethodsConcrete Methods

Modifier and Type

Method and Description

void

[setDefaultCloseOperation\(int operation\)](#)

Sets the operation that will happen by default when the user initiates a "close" on this frame.

void

[setLayout\(LayoutManager manager\)](#)

Sets the `LayoutManager`.

Methods inherited from class [java.awt.Container](#)

[add](#), [add](#), [add](#), [add](#), [add](#), [addContainerListener](#), [applyComponentOrientation](#), [areFocusTraversalKeysSet](#), [countComponents](#), [deliverEvent](#), [doLayout](#), [findComponentAt](#), [findComponentAt](#), [getAlignmentX](#), [getAlignmentY](#), [getComponent](#), [getComponentAt](#), [getComponentAt](#), [getComponentCount](#), [getComponents](#), [getComponentZOrder](#), [getContainerListeners](#), [getFocusTraversalPolicy](#), [getInsets](#), [getLayout](#), [getMaximumSize](#), [getMinimumSize](#), [getMousePosition](#), [getPreferredSize](#), [insets](#), [invalidate](#), [isAncestorOf](#), [isFocusCycleRoot](#), [isFocusTraversalPolicyProvider](#), [isFocusTraversalPolicySet](#), [layout](#), [list](#), [list](#), [locate](#), [minimumSize](#), [paintComponents](#), [preferredSize](#), [print](#), [printComponents](#), [processContainerEvent](#), [remove](#), [removeAll](#), [removeContainerListener](#), [setComponentZOrder](#), [setFocusTraversalKeys](#), [setFocusTraversalPolicy](#), [setFocusTraversalPolicyProvider](#), [setFont](#), [transferFocusDownCycle](#), [validate](#), [validateTree](#)

Vedlegg 2 class JTextField

javax.swing

Class JTextField

[java.lang.Object](#)

[java.awt.Component](#)

[java.awt.Container](#)

[javax.swing.JComponent](#)

[javax.swing.text.JTextComponent](#)

javax.swing.JTextField

All Implemented Interfaces:

[ImageObserver](#), [MenuContainer](#), [Serializable](#), [Accessible](#), [Scrollable](#), [SwingConstants](#)

Direct Known Subclasses:

[DefaultTreeCellEditor.DefaultTextField](#), [JFormattedTextField](#), [JPasswordField](#)

```
public class JTextField
extends JTextComponent
implements SwingConstants
```

JTextField is a lightweight component that allows the editing of a single line of text.

Constructor Summary

Constructors

Constructor and Description

[JTextField](#)()

Constructs a new TextField.

[JTextField](#)(int columns)

Constructs a new empty TextField with the specified number of columns.

Methods inherited from class javax.swing.text.JTextComponent

[addCaretListener](#), [addInputMethodListener](#), [addKeymap](#), [copy](#), [cut](#), [fireCaretUpdate](#), [getCaret](#), [getCaretColor](#), [getCaretListeners](#), [getCaretPosition](#), [getDisabledTextColor](#), [getDocument](#), [getDragEnabled](#), [getDropLocation](#), [getDropMode](#), [getFocusAccelerator](#), [getHighlighter](#), [getInputMethodRequests](#), [getKeymap](#), [getKeymap](#), [getMargin](#), [getNavigationFilter](#), [getPreferredScrollableViewportSize](#), [getPrintable](#), [getScrollableBlockIncrement](#), [getScrollableTracksViewPortHeight](#), [getScrollableTracksViewPortWidth](#), [getScrollableUnitIncrement](#), [getSelectedText](#), [getSelectedTextColor](#), [getSelectionColor](#), [getSelectionEnd](#), [getSelectionStart](#), [getText](#), [getText](#), [getToolTipText](#), [getUI](#), [isEditable](#), [loadKeymap](#), [modelToView](#), [moveCaretPosition](#), [paste](#), [print](#), [print](#), [print](#), [processInputMethodEvent](#), [read](#), [removeCaretListener](#), [removeKeymap](#), [removeNotify](#), [replaceSelection](#), [restoreComposedText](#), [saveComposedText](#), [select](#), [selectAll](#), [setCaret](#), [setCaretColor](#), [setCaretPosition](#), [setComponentOrientation](#), [setDisabledTextColor](#), [setDragEnabled](#), [setDropMode](#), [setEditable](#), [setFocusAccelerator](#), [setHighlighter](#), [setKeymap](#), [setMargin](#), [setNavigationFilter](#), [setSelectedTextColor](#), [setSelectionColor](#), [setSelectionEnd](#), [setSelectionStart](#), [setText](#), [setUI](#), [updateUI](#), [viewToModel](#), [write](#)

Vedlegg 3 Class JLabel

Class JLabel

[java.lang.Object](#)

[java.awt.Component](#)

[java.awt.Container](#)

[javax.swing.JComponent](#)

[javax.swing.JLabel](#)

All Implemented Interfaces:

[ImageObserver](#), [MenuContainer](#), [Serializable](#), [Accessible](#), [SwingConstants](#)

Direct Known Subclasses:

[BasicComboBoxRenderer](#), [DefaultListCellRenderer](#), [DefaultTableCellRenderer](#), [DefaultTreeCellRenderer](#)

```
public class JLabel
extends JComponent
implements SwingConstants, Accessible
```

A display area for a short text string or an image, or both.

Constructor Summary

Constructors

Constructor and Description

[JLabel](#)(String text)

Creates a JLabel instance with the specified text.

Method Summary

All Methods [Instance Methods](#) [Concrete Methods](#)

Modifier and Type

Method and Description

void

[setText](#)(String text)

Defines the single line of text this component will display.

Vedlegg 4 Class JButton

Class JButton

[java.lang.Object](#)

[java.awt.Component](#)

[java.awt.Container](#)

[javax.swing.JComponent](#)

[javax.swing.AbstractButton](#)

[javax.swing.JButton](#)

All Implemented Interfaces:

[ImageObserver](#), [ItemSelectable](#), [MenuContainer](#), [Serializable](#), [Accessible](#), [SwingConstants](#)

Direct Known Subclasses:

[BasicArrowButton](#), [MetalComboBoxButton](#)

```
public class JButton
extends AbstractButton
implements Accessible
An implementation of a "push" button.
```

Constructor Summary

Constructors

Constructor and Description

[JButton](#)(String text)
Creates a button with text.

Method Summary

All Methods [Instance Methods](#) [Concrete Methods](#)

Methods inherited from class [javax.swing.AbstractButton](#)

[actionPropertyChange](#), [addActionListener](#), [addChangeListener](#), [addImpl](#), [addItemListener](#), [checkHorizontalKey](#), [checkVerticalKey](#), [configurePropertiesFromAction](#), [createActionListener](#), [createActionPropertyChangeListener](#), [createChangeListener](#), [createItemListener](#), [doClick](#), [doClick](#), [fireActionPerformed](#), [fireItemStateChanged](#), [fireStateChanged](#), [getAction](#), [getActionCommand](#), [getActionListeners](#), [getChangeListeners](#), [getDisabledIcon](#), [getDisabledSelectedIcon](#), [getDisplayedMnemonicIndex](#), [getHideActionText](#), [getHorizontalAlignment](#), [getHorizontalTextPosition](#), [getIcon](#), [getIconTextGap](#), [getItemListeners](#), [getLabel](#), [getMargin](#), [getMnemonic](#), [getModel](#), [getMultiClickThreshold](#), [getPressedIcon](#), [getRolloverIcon](#), [getRolloverSelectedIcon](#), [getSelectedIcon](#), [getSelectedObjects](#), [getText](#), [getUI](#), [getVerticalAlignment](#), [getVerticalTextPosition](#), [imageUpdate](#), [init](#), [isBorderPainted](#), [isContentAreaFilled](#), [isFocusPainted](#), [isRolloverEnabled](#), [isSelected](#), [paintBorder](#), [removeActionListener](#), [removeChangeListener](#), [removeItemListener](#), [setAction](#), [setActionCommand](#), [setBorderPainted](#), [setContentAreaFilled](#), [setDisabledIcon](#), [setDisabledSelectedIcon](#), [setDisplayedMnemonicIndex](#), [setEnabled](#), [setFocusPainted](#), [setHideActionText](#), [setHorizontalAlignment](#), [setHorizontalTextPosition](#), [setIcon](#), [setIconTextGap](#), [setLabel](#), [setLayout](#), [setMargin](#), [setMnemonic](#), [setMnemonic](#), [setModel](#), [setMultiClickThreshold](#), [setPressedIcon](#), [setRolloverEnabled](#), [setRolloverIcon](#), [setRolloverSelectedIcon](#), [setSelected](#), [setSelectedIcon](#), [setText](#), [setUI](#), [setVerticalAlignment](#), [setVerticalTextPosition](#)

Vedlegg 5 Interface ActionListener

public interface ActionListener

extends [EventListener](#)

The listener interface for receiving action events. The class that is interested in processing an action event implements this interface, and the object created with that class is registered with a component, using the component's `addActionListener` method. When the action event occurs, that object's `actionPerformed` method is invoked.

Since:

1.1

See Also:

[ActionEvent](#), [How to Write an Action Listener](#)

Method Summary

All Methods [Instance Methods](#) [Abstract Methods](#)

Modifier and Type	Method and Description
void	actionPerformed (ActionEvent e) Invoked when an action occurs.

Vedlegg 6 Class(ActionEvent)

[java.awt.event](#)

Class [ActionEvent](#)

[java.lang.Object](#)

[java.util.EventObject](#)

[java.awt.AWTEvent](#)

[java.awt.event.ActionEvent](#)

All Implemented Interfaces:

[Serializable](#)

public class **ActionEvent**

extends [AWTEvent](#)

A semantic event which indicates that a component-defined action occurred.

Since:

1.1

See Also:

[ActionListener](#), [Tutorial: How to Write an Action Listener](#), [Serialized Form](#)

Field Summary

Fields inherited from class java.util.[EventObject](#)

[source](#)

Method Summary

All Methods Instance Methods Concrete Methods	
Modifier and Type	Method and Description
String	getActionCommand() Returns the command string associated with this action.
Object	getSource() The object on which the Event initially occurred.

Vedlegg 7 Class Scanner

public final class **Scanner**

extends [Object](#)

implements [Iterator](#)<[String](#)>, [Closeable](#)

A simple text scanner which can parse primitive types and strings using regular expressions.

A Scanner breaks its input into tokens using a delimiter pattern, which by default matches whitespace. Constructor and Description	
Scanner (File source)	Constructs a new Scanner that produces values scanned from the specified file.

Method Summary

All Methods Instance Methods Concrete Methods	
Modifier and Type	Method and Description
void	close() Closes this scanner.
boolean	hasNext() Returns true if this scanner has another token in its input.
IOException	ioException() Returns the IOException last thrown by this Scanner 's underlying Readable .
String	next() Finds and returns the next complete token from this scanner.
int	nextInt() Scans the next token of the input as an int .
String	nextLine() Advances this scanner past the current line and returns the input that was skipped.
Scanner	reset() Resets this scanner.
Scanner	skip(String pattern) Skips input that matches a pattern constructed from the specified string.
String	toString() Returns the string representation of this Scanner .

Vedlegg 8 Class File

java.io

Class File

[java.lang.Object](#)

[java.io.File](#)

All Implemented Interfaces:

[Serializable](#), [Comparable](#)<[File](#)>

public class **File**

extends [Object](#)

implements [Serializable](#), [Comparable<File>](#)
An abstract representation of file and directory pathnames.
Since:
JDK1.0
See Also:
[Constructor Summary](#)

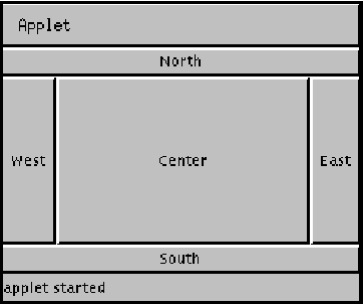
Constructors
Constructor and Description
File (String pathname) Creates a new <code>File</code> instance by converting the given pathname string into an abstract pathname.

Vedlegg 9 Class BorderLayout

java.awt
Class `BorderLayout`
j ava.lang.Object
 java.awt.BorderLayout
All Implemented Interfaces:
[LayoutManager](#), [LayoutManager2](#), [Serializable](#)

```
public class BorderLayout
extends Object
implements LayoutManager2, Serializable
```

A border layout lays out a container, arranging and resizing its components to fit in five regions: north, south, east, west, and center. Each region may contain no more than one component, and is identified by a corresponding constant: `NORTH`, `SOUTH`, `EAST`, `WEST`, and `CENTER`.
Here is an example of five buttons in an applet laid out using the `BorderLayout` layout manager:



Since:
JDK1.0
See Also:
[Container.add\(String, Component\)](#), [ComponentOrientation](#), [Serialized Form](#)
Field Summary

Fields	
Modifier and Type	Field and Description
static String	CENTER The center layout constraint (middle of container).
static String	EAST The east layout constraint (right side of container).
static String	NORTH The north layout constraint (top of container).
static String	SOUTH The south layout constraint (bottom of container).
static String	WEST The west layout constraint (left side of container).

Vedlegg 10 Class GridLayout

java.awt
Class `GridLayout`
java.lang.Object
 java.awt.GridLayout
All Implemented Interfaces:
[LayoutManager](#), [Serializable](#)

```
public class GridLayout
extends Object
implements LayoutManager, Serializable
```

The `GridLayout` class is a layout manager that lays out a container's components in a rectangular grid. The container is divided into equal-sized rectangles, and one component is placed in each rectangle.

Since:
JDK1.0
See Also:
[Serialized Form](#)
Constructor Summary

Constructors

Constructor and Description

GridLayout()

Creates a grid layout with a default of one column per component, in a single row.

GridLayout(int rows, int cols)

Creates a grid layout with the specified number of rows and columns.

GridLayout(int rows, int cols, int hgap, int vgap)

Creates a grid layout with the specified number of rows and columns.

Vedlegg 11 Class JPanel

javax.swing

Class JPanel

[java.lang.Object](#)

[java.awt.Component](#)

[java.awt.Container](#)

[javax.swing.JComponent](#)

javax.swing.JPanel

All Implemented Interfaces:

[ImageObserver](#), [MenuContainer](#), [Serializable](#), [Accessible](#)

Direct Known Subclasses:

[AbstractColorChooserPanel](#), [JSpinner.DefaultEditor](#)

```
public class JPanel
```

```
extends JComponent
```

```
implements Accessible
```

JPanel is a generic lightweight container.

Constructor Summary

Constructors

Constructor and Description

JPanel()

Creates a new JPanel with a double buffer and a flow layout.

JPanel(LayoutManager layout)

Create a new buffered JPanel with the specified layout manager

Method Summary

All Methods Instance Methods Concrete Methods

Methods inherited from class java.awt.Container

[add](#), [add](#), [add](#), [add](#), [addContainerListener](#), [addImpl](#), [addPropertyChangeListener](#), [addPropertyChangeListener,a](#)
[pplyComponentOrientation](#), [areFocusTraversalKeysSet](#), [countComponents](#), [deliverEvent](#), [doLayout](#), [findComponentAt](#),
[findComponentAt](#), [getComponent](#), [getComponentAt](#), [getComponentAt](#), [getComponentAt](#), [getComponentCount](#), [getComponents](#), [getComponentZO](#)
[rder](#), [getContainerListeners](#), [getFocusTraversalKeys](#), [getFocusTraversalPolicy](#), [getLayout](#), [getMousePosition](#), [inset](#)
[s](#), [invalidate](#), [isAncestorOf](#), [isFocusCycleRoot](#), [isFocusCycleRoot](#), [isFocusTraversalPolicyProvider](#), [isFocusTravers](#)
[alPolicySet](#), [layout](#), [list](#), [list](#), [locate](#), [minimumSize](#), [paintComponents](#), [preferredSize](#), [printComponents](#), [processC](#)
[ontainerEvent](#), [processEvent](#), [remove](#), [remove](#), [removeAll](#), [removeContainerListener](#), [setComponentZOrder](#), [setFocusCy](#)
[cleRoot](#), [setFocusTraversalPolicy](#), [setFocusTraversalPolicyProvider](#), [setLayout](#), [transferFocusDownCycle](#), [validate](#),
[validateTree](#)

Vedlegg 12 Class String

java.lang

Class String

[java.lang.Object](#)

[java.lang.String](#)

All Implemented Interfaces:

[Serializable](#), [CharSequence](#), [Comparable<String>](#)

```
public final class String
```

```
extends Object
```

```
implements Serializable, Comparable<String>, CharSequence
```

The String class represents character strings. All string literals in Java programs, such as "abc", are implemented as instances of this class.

Strings are constant; their values cannot be changed after they are created. *Constructor Summary*

Constructors

Constructor and Description

String()

Initializes a newly created `String` object so that it represents an empty character sequence.

`String(String original)`

Initializes a newly created `String` object so that it represents the same sequence of characters as the argument; in other words, the newly created string is a copy of the argument string.

Method Summary

[All Methods](#) [Static Methods](#) [Instance Methods](#) [Concrete Methods](#) [Deprecated Methods](#)

Modifier and Type	Method and Description
char	charAt(int index) Returns the char value at the specified index.
boolean	isEmpty() Returns true if, and only if, <code>length()</code> is 0.
int	length() Returns the length of this string.
String	toLowerCase() Converts all of the characters in this <code>String</code> to lower case using the rules of the default locale.
String	toString() This object (which is already a string!) is itself returned.
String	toUpperCase() Converts all of the characters in this <code>String</code> to upper case using the rules of the default locale.
static String	valueOf(int i) Returns the string representation of the <code>int</code> argument.

Vedlegg 13

```
public abstract class Person {  
    private String firstName;  
    private String familyName;  
    private String socialSecurityNumber;  
  
    public Person() {  
        this("ukjent", "ukjent", "ukjent");  
    }  
  
    public Person(String firstName,  
                  String familyName,  
                  String socialSecurityNumber) {  
        setFirstName(firstName);  
        setFamilyName(familyName);  
        setSocialSecurityNumber(socialSecurityNumber);  
    }  
  
    public void setFirstName(String firstName) {  
        this.firstName = firstName;  
    }  
  
    public void setFamilyName(String familyName) {  
        this.familyName = familyName;  
    }  
  
    public void setSocialSecurityNumber(  
        String socialSecurityNumber) {  
        this.socialSecurityNumber = socialSecurityNumber;  
    }  
  
    public String getFirstName() {  
        return firstName;  
    }  
  
    public String getFamilyName() {  
        return familyName;  
    }  
  
    public String getSocialSecurityNumber() {  
        return socialSecurityNumber;  
    }  
  
    public String toString() {  
        return "(" + getSocialSecurityNumber() + ") "  
            + getFirstName() + " " + getFamilyName();  
    }  
  
    public boolean equals(Object other) {  
        if (!(other instanceof Person)) return false;  
        if (other == this) return true;  
  
        Person p = (Person) other;  
        return getSocialSecurityNumber().equals(  
            p.getSocialSecurityNumber());  
    }  
}
```

```
public class Student extends Person {  
    private String studentNumber;  
    private int credits;  
  
    public Student(String studentNumber,  
                  String socialSecurityNumber,  
                  String firstName,  
                  String familyName,  
                  int credits) {  
        super(firstName, familyName, socialSecurityNumber);  
        setStudentNumber(studentNumber);  
        setCredits(credits);  
    }  
  
    public void setStudentNumber(String studentNumber) {  
        this.studentNumber = studentNumber;  
    }  
  
    public void setCredits(int credits) {  
        this.credits = credits;  
    }  
  
    public String getStudentNumber() {  
        return studentNumber;  
    }  
  
    public int getCredits() {  
        return credits;  
    }  
  
    public String toString() {  
        String retur = super.toString()  
            + " (" + getStudentNumber()  
            + ") " + getCredits();  
        return retur;  
    }  
}
```