

1 Installation

All files needed for Java programming can be downloaded from www.oracle.com. Most important packages are:

- JRE – Java Runtime Environment, for running Java programs
- JDK – Java Developer Kit, for developing Java programs

2 Java tools

2.1 javac

Kompilation of the source files

```
javac Source.java
```

2.2 java, javaw

Running compiled classes

```
java Source
```

2.3 jar

Creating of the jar archives

```
jar -cf JarFileName.jar Source.class
```

2.4 javadoc

Generation of the documentation

```
javadoc Source.java
```

3 Examples

3.1 Console program

```
/** Main class
 */
public class Source{
    public static void main(String[] args){
        System.out.println("Hello World");
    }
}
```

3.2 Window application

```
import javax.swing.JFrame;

/** Main class
 */
public class Source{
    public static void main(String[] args){
        JFrame f = new JFrame();
        f.setSize(320, 200);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        f.setVisible(true);
    }
}
```

3.3 Applet

```
import javax.swing.JApplet;
import javax.swing.JLabel;

public class App extends JApplet{
    public void init(){
        add(new JLabel("Hello World"));
    }
    public void stop(){}
}
```

Embedding applet on web page

```
<html>
<body>
  <applet code="App.class" width="320" height="200">
  </applet>
</body>
</html>
```

3.4 Example manifest file

Main-Class: Source

4 Tasks to complete

1. Compile the example codes
2. Run example codes
3. Compare commands *java* and *javaw*
4. Generate jar with example codes
5. Generate documentation
6. Familiarize with the command line arguments: `java -h`, `javac -help`, `jar -h`. Determine the role of *-classpath* argument
7. Generate executable jar file