

Introduction to Pseudo Code



This section introduces the basic concepts of pseudo code and shows some examples.

What is Pseudo Code?

It is quite difficult to define the **pseudo code** exactly. It is a kind of structured English for describing algorithms. It allows the designer to focus on the logic of the algorithm without being distracted by details of programming language syntax. The pseudo code describes the logic of the program and acts as a blueprint for the source code to be written by the programmer.

Below is an example of pseudo code and its counterpart in Java. It is not necessary to understand what this does; it only demonstrates the differences:

Pseudo Code

```
METHOD moveRobot (Robot aRobot)
  IF robot has no obstacle in front THEN
    Move robot
    Add the move command to the command history
    RETURN true
  ELSE
    RETURN false without moving the robot
  END IF
```

Java Code

```
public boolean moveRobot (Robot aRobot) {
  if (aRobot.isFrontClear()) {
    aRobot.move();
    cmdHistory.add(RobotAction.MOVE);
    return true;
  }
  else {
    return false;
  }
}
```

There are two main reasons for using pseudo code:

- Programming languages evolve at a rather rapid pace. Pseudo code is programming language neutral and can be (re-)used no matter what programming language is used.
- A designer can influence and understand the workings of a system to be built. It also provides a communication vehicle between a designer / modeller and a programmer.

Pseudo Code Notation

There is no universal standard notation for Pseudo, since it is read by other people, not by the computer. For instructional purposes it is helpful if people working on the same project all follow a similar style. For the purpose of this course, the following notation is used:

All pseudo code is written using a mono space (non-proportional) font. The advantage is that columns line up nicely, which makes it easier to read the code. Below an example of pseudo code from the OO and UML course.

```
CLASS SkatingSl oopy I NHERI TS Sl oopyBoy
ATTRI BUTES:
  name: TEXT
  eye_col our: COLOUR
METHODS:
  ri de(speed) RETURN posi ti on
```

The text uses a light blue background to distinguish pseudo code from text in the learning materials. All keywords are written in **BOLD** and **UPPERCASE** letters. Indentations are used to show blocks of code that belong to each other logically.



In this section we have covered pseudo code, which will be used throughout the course.