

CMPS101: Fall2003

Handout for Pseudo-code convention

The following conventions must be used to present your pseudo-code. Please note that the code should be **clear** and **easy to understand**. Otherwise, we take off your points.

1. Give a valid name for the pseudo-code procedure. (See sample code for *insertion sort* at the end)
2. Use the line numbers for each line of code.
3. Use proper **Indentation** for every statement in a block structure.
4. For a flow control statements use **if-else**. Always end an **if** statement with an **end-if**. Both *if*, *else* and *end-if* should be aligned vertically in same line.
Ex: **If** (*conditional expression*)
 statements (see the indentation)
 else statements
 end-if
5. Use “=” or “ \leftarrow ” operator for assignment statements.
Ex: $i = j$ or $i \leftarrow j$
 $n = 2$ **to** length[A] or $n \leftarrow 2$ **to** length[A]
6. Array elements can be represented by specifying the array name followed by the index in square brackets. For example, **A[i]** indicates the **i**th element of the array **A**.
7. For looping or iteration use **for** or **while** statements. Always end a **for** loop with **end-for** and a **while** with **end-while**.
8. The conditional expression of **for** or **while** can be written as shown in rule (4). You can separate two or more conditions with an “**and**”.

Sample pseudo-code for *insertion sort* using the above conventions:

INSERTION-SORT(A)

1. **for** $j \leftarrow 2$ to length[A]
2. key $\leftarrow A[j]$
3. $i \leftarrow j - 1$
4. **while** $i > 0$ **and** $A[i] < \text{key}$ // If required, use this convention for a comment
5. $A[i+1] \leftarrow A[i]$ // Swap two elements of array.
6. $i \leftarrow i - 1$
7. **end-while**
8. $A[i+1] \leftarrow \text{key}$
9. **end-for**