

ALGORITHMS: PSEUDO CODE

An algorithm is the steps we need to follow to solve a problem. Each step represents one line of code in a program. One line of pseudo code can be translated to one instruction in any programming language, e.g. Java, C++, Python, etc.

So someone can write the steps to solve a problem on paper (or type it out in a word processor) instead of writing down the code and a programmer (using any kind of programming language) can then convert each step into an instruction in his/her program. We call this code (steps of solving the problem) Pseudo Code because it is not real code.

In the matric final examination you will have to give solutions to problems by writing down the steps instead of providing the code.

So instead of writing down

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name = JOptionPane.showInputDialog("Please enter your name");
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you simply write down

Enter name

JAVA	PSEUDO CODE
<p><u>DECLARATIONS:</u></p> <pre>int age; String name; boolean found; double amount;</pre>	<pre><u>declare</u> age <u>as</u> integer <u>declare</u> name <u>as</u> string <u>declare</u> found <u>as</u> boolean <u>declare</u> amount <u>as</u> double (or <u>as</u> a real number)</pre>
<p><u>OUTPUT:</u></p> <pre>JOptionPane.showMessageDialog(null,"Age:" + age); System.out.println("Age:" + age);</pre>	<pre><u>display</u> "age:" + age</pre>
<p><u>INPUTS:</u></p> <pre>name = JOptionPane.showInputDialog("Enter name"); int age = Integer.parseInt(JOptionPane.showInput Dialog("Enter age");</pre>	<pre><u>display</u> "enter name" <u>input</u> name <u>declare</u> age <u>as</u> integer <u>display</u> "enter age" <u>input</u> age</pre>

<p><u>ASSIGNMENT STATEMENTS / CALCULATIONS:</u></p> <p>amount = 300;</p> <p>total = total + 5;</p> <p>found = true;</p> <p>count++;</p> <p>convict = new Prisoner("Thomas Corke",30,'B');</p>	<p>amount ← 300</p> <p>total ← total + 5</p> <p>found ← true</p> <p>add 1 to count</p> <p>instantiate the object convict from the prisoner class</p> <p><i>(in other words: create the object convict from the prisoner class)</i></p>
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<p><u>DECISIONS – IF:</u></p> <p>if (name.equals("Tony") && age == 21)</p> <p>if (age != 21)</p> <p>if (found == true) <u>OR just:</u> if (found)</p> <p>if (found == false) <u>OR just:</u> if (!found)</p>	<p><u>if</u> name = "Tony" <u>and</u> age = 21</p> <p><u>if</u> age ≠ 21</p> <p><u>if</u> found = true <u>OR:</u> if found</p> <p><u>if</u> found = false <u>OR:</u> if not found</p>
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<p><u>LOOPS – FOR:</u></p> <p>for (int i = 1; i <= 5; i++)</p> <p style="text-align: center;"><u>OR</u></p> <p>for (int i = 0; i < 5; i++)</p>	<p><u>for</u> i ← 1 <u>to</u> 5</p> <p style="text-align: center;"><u>OR</u></p> <p><u>for</u> i ← 0 <u>to</u> 4</p>
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