

A quick guide to planning clear, logical algorithms

Pseudocode describes the steps of a solution before they are translated into a programming language. Keep instructions simple, ordered and easy to trace.

Category	WHAT IT DOES	EXAMPLE / KEYWORDS
Sequence	A list of instructions carried out one after another.	INPUT age age = age + 1 OUTPUT "Next year you will be " & age
Operations	Special keywords used to perform essential tasks in an algorithm.	BEGIN / END start or finish a section INPUT accept and store a value OUTPUT display a value or message PRINT send a value or message to a printer READ get values from a data file WRITE save values to a data file
Decisions	Select different operations depending on whether a condition is true or false.	IF age < 13 OUTPUT "You are a child" ELIF age < 18 OUTPUT "You are a teenager" ELSE OUTPUT "You are an adult" ENDIF
Repetitions	Repeat selected instructions zero or more times.	FOR counter = 1 TO times OUTPUT message END FOR WHILE attempts < 3 INPUT password attempts = attempts + 1 END WHILE
Structure	Indentation makes the logic visible and clearly separates decisions from repetitions.	FOR counter = 1 TO 10 IF counter MOD 2 = 0 OUTPUT counter & " is an even number" ELSE OUTPUT counter & " is an odd number" ENDIF END FOR

General rules for pseudocode

1 Keywords	Use uppercase keywords such as INPUT, OUTPUT, IF, ELIF, ELSE, FOR and WHILE.
2 One Step	Write one clear instruction on each line and keep the wording concise.
3 Assignment	Use = to assign or update a value, for example: total = total + price.
4 Indentation	Indent instructions inside decisions and loops to show the structure clearly.
5 Close Blocks	End every structure explicitly with ENDIF, END FOR or END WHILE.
6 Clear Names	Choose meaningful names such as score, total and attempts—not vague single letters.
7 Conditions	Make conditions specific and use consistent operators such as =, <, >, <= and >=.
8 Language	Keep pseudocode language-independent; describe the logic rather than exact program syntax.
9 Trace	Dry-run the algorithm using normal, boundary and unexpected test data.
10 Consistency	Use the same keyword, capitalization and indentation style throughout the algorithm.