

Design - Pseudocode

Pseudocode

Pseudocode is a written design notation of the steps needed to solve a problem. It is not based on a programming language, meaning you don't have to worry about syntax.

Pseudocode should:

- define the main steps of a program
- Refine/break down the main steps where possible (not all main steps need refined)
- have indentation to help identify loops and selection statements

Pseudocode Example

Program Purpose

A class of 20 pupils is raising money for charity. For each pupil, the program will ask how much money they raised, validate that it is a value larger than 0, and then add the amount to the total. When there are no pupils left, the program should decide if the class has won a prize by raising more than £150, displaying a congratulations message if they have. The program will then display the total amount raised.

Pseudocode Example

1. SET total TO 0
2. FOR LOOP 1 TO 20
3. Get valid amount from user
4. SET total TO total + amount
5. END LOOP
6. Decide if class gets a prize
7. Display total

Pseudocode Example

1. SET total TO 0
2. FOR LOOP 1 TO 20
3. Get valid amount from user
4. SET total TO total + amount
5. END LOOP
6. Decide if class gets a prize
7. Display total

Refinements

- 3.1 RECEIVE amount FROM USER
- 3.2 WHILE amount < 0
- 3.3 SEND error message TO DISPLAY
- 3.4 RECEIVE amount FROM USER
- 3.5 END LOOP
- 6.1 IF total > 150 THEN
- 6.2 SEND "Congratulations" TO DISPLAY
- 6.3 END IF

Pre-Defined Functions in Pseudocode

SET score TO ROUND (score, 2)

SET numberOfCharacters TO LENGTH (firstname)

SET bonusBall TO RANDOM(1, 59)