Algorithms and Pesudocode

Presented
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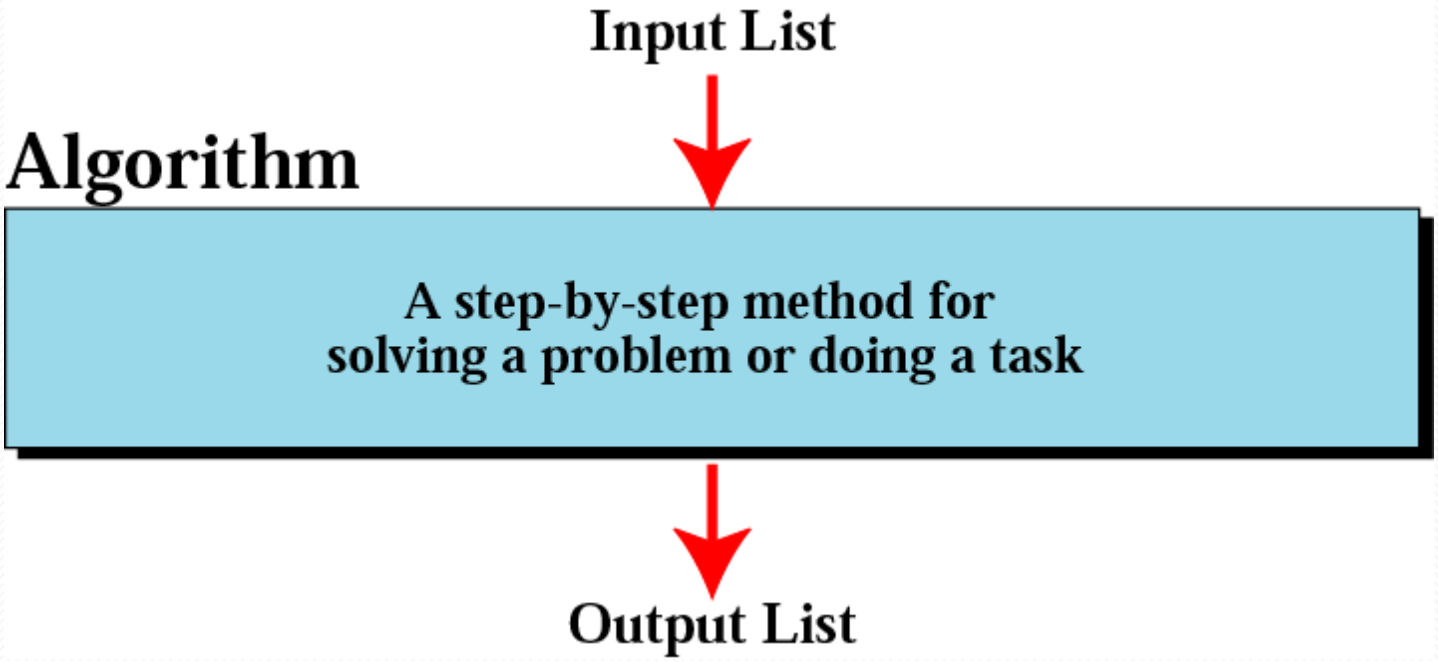
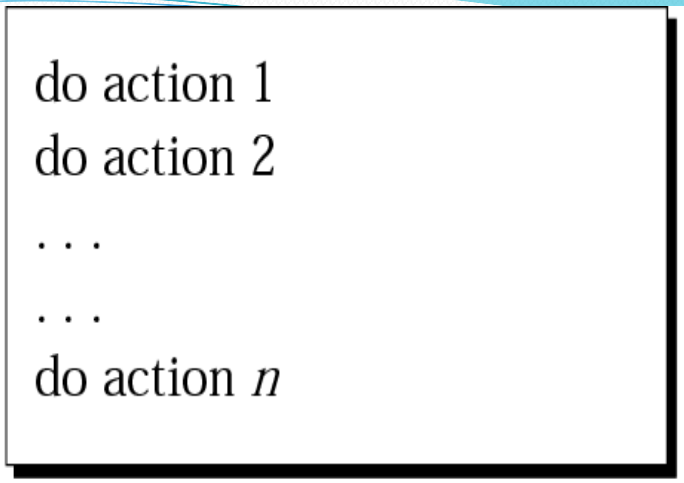
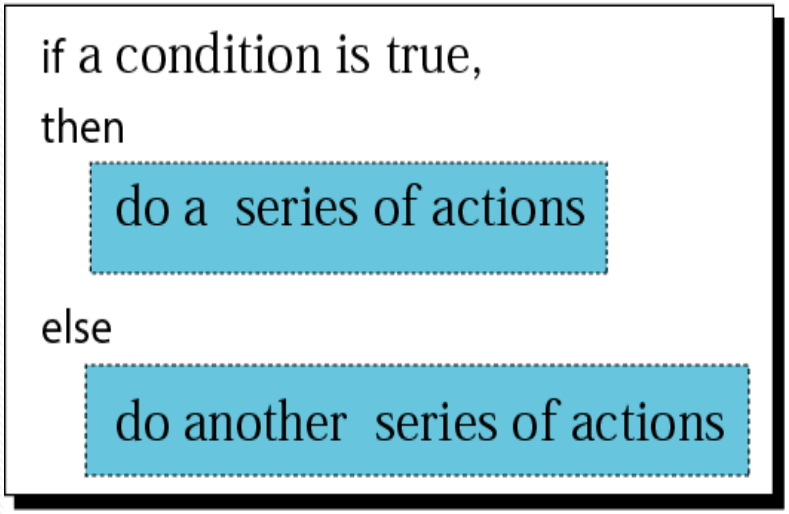
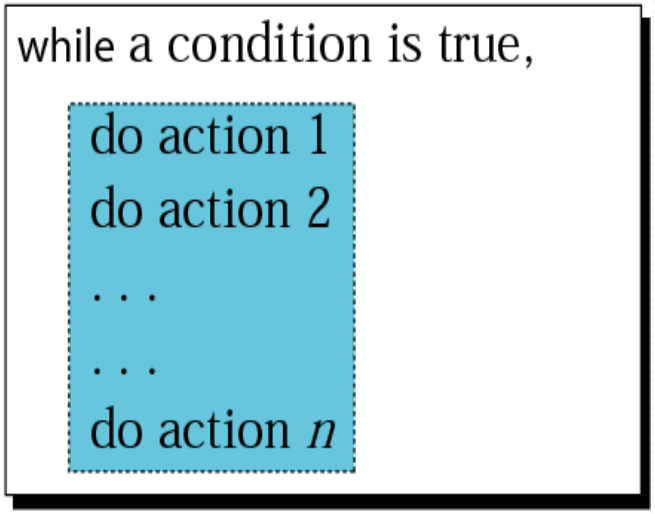

Input List
Algorithm
A step-by-step method for
solving a problem or doing a task
Output List



a. Sequence



b. Decision



c. Repetition

that finds the average of two numbers

- AverageOfTwo
- Input: Two numbers

1. Add the two numbers
2. Divide the result by 2
3. Return the result by step 2

- End

Write an algorithm to change a numeric grade to a pass/no pass grade

Pass/NoPassGrade

Input: One number

if (the number is greater than or equal to 70)

then

1.1 Set the grade to "pass"

else

1.2 Set the grade to "nopass"

End if

Return the grade

End

Pseudocode

Flowcharts were the first design tool to be widely used, but unfortunately they do not reflect some of the concepts of structured programming very well. Pseudocode, on the other hand, is a newer tool and has features that make it more reflective of the structured concepts. The drawback is that the narrative presentation is not as easy to understand and/or follow.

Rules for Pseudocode

- Write only one statement per line
- Capitalize initial keyword
- Indent to show hierarchy
- End multiline structures
- Keep statements language independent

- READ, WRITE, IF, ELSE, ENDIF, WHILE, ENDWHILE

- **Pseudocode**

- **READ name, hoursWorked, payRate**
- **gross = hoursWorked * payRate**
- **WRITE name, hoursWorked, gross**

advantages & Disadvantages

Flowchart Advantages

- ✓ Standardized
- ✓ Visual

- Flowchart Disadvantages:
  - ✓ Hard to modify
  - ✓ Structured design elements not implemented
  - ✓ Special software required

Thank You