Algorithm

↳ It is step by step procedure to perform specific task

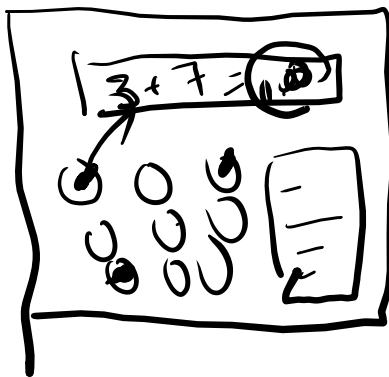### English

Real example

Coffee

→ cub
→ water buil ——
→ suga add ——
→ millic. ——→
→ spoon stir ——

सु/से

Task

(1) Add two number

mathematic

$$3 + 7 = 10$$
$$(a) + (b) = sum$$

⇒ program code

→ Read → (Python)
→ Display / write / print

Step 1: Start

Step 2: Take a cup, water, coffee powder, sugar, and milk

Step 3: Boil water

Step 4: Add 1–2 spoons of coffee powder into the cup

Step 5: Add sugar as per taste

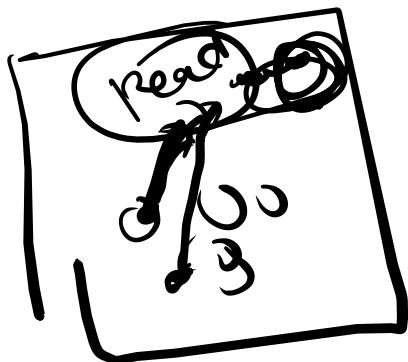Step 6: Pour hot water into the cup and stir well

Step 7: Add milk (optional, if making milk coffee)

Step 8: Stir properly

Step 9: Serve the coffee

Step 10: Stop

$3 + 7 = 10$

a, b
→ sum = a+b
→ sum

Step1 : Start

Step2 : Take a, b Variable's

Step 3 : Read a, b value's

Step4 : Compute : sum = a+b

Step5 : Display Sum Value

Step6 : Stop

② Average of three value's

② Avg of three value's

I III $\otimes$

$$\frac{3 + 5 + 10}{3} = avg$$

(a) (b) (c)
Sum = 3 + 5 + 10
Avg = Sum/3
Display Avg

computer   a, b, c

keyboard

Step1 : Start

Step2 : Take a, b, c, variable's

Step 3 : Read a, b, c, value's
$\quad\quad\quad$ input

Step4 : Compute: $Avg = \dfrac{(a+b+c)}{3}$

Step5 : Display Avg value.

Step6 : Stop

Start
$\downarrow$
Read
$\downarrow$
Process
$\downarrow$
Print / display
$\downarrow$
end / stop

Characteristics

→ Read / input
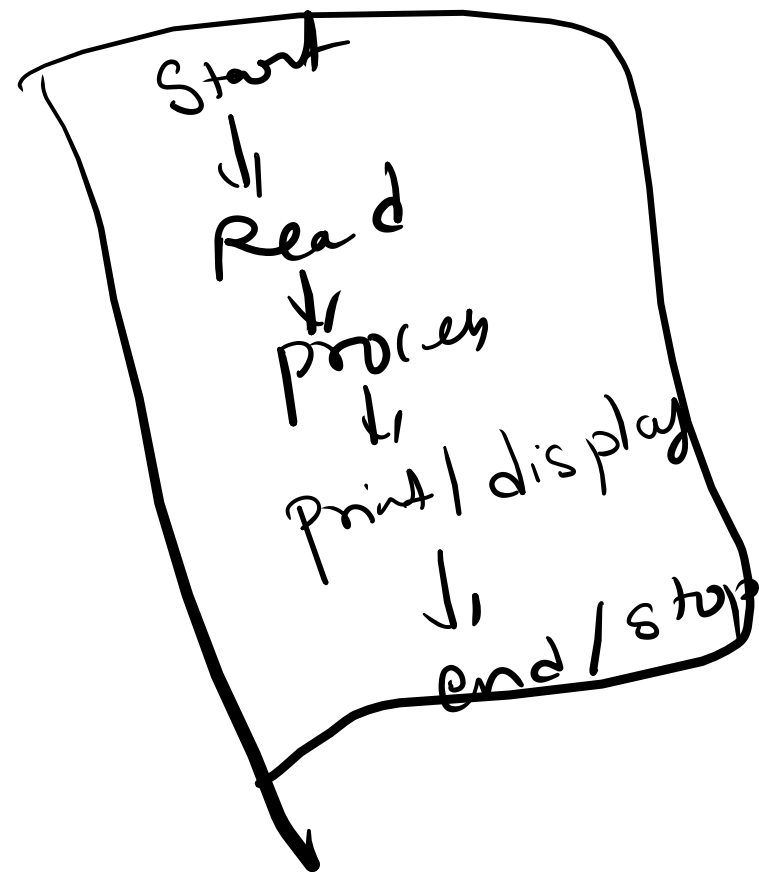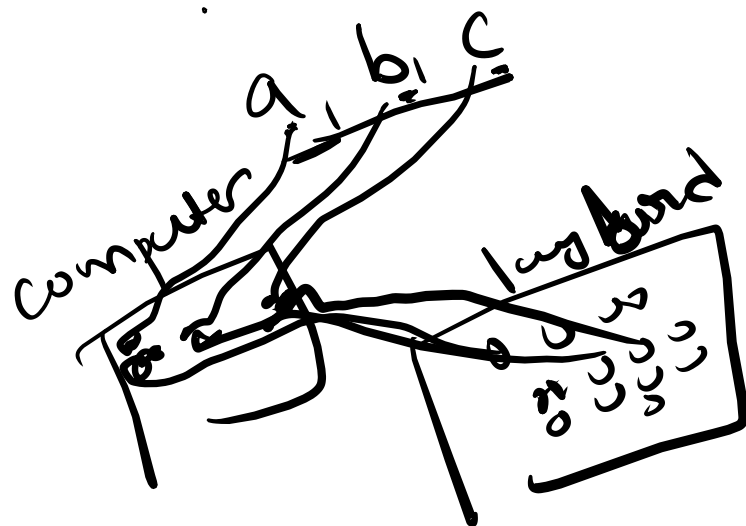
Input → It should accept **zero or more inputs.**

Output → It should produce **at least one output.**

Definiteness → Every step must be **clear and unambiguous.**

Finiteness → It must **end after a finite number of steps** (not run forever).

Effectiveness → Steps should be **basic, simple, and feasible.**

Generality → It should be applicable to a **class of problems**, not just one case.

Code

→ initiauve - Drink min
→ buili
→ rate cup

Rules:

Start and **End** should be clearly mentioned.

Steps must be **numbered** and **sequential.**

Use **simple English statements** (not code).

Maintain **clarity and correctness.**

Ensure **finite execution** (the algorithm should not loop infinitely).