Musaeus College
Colombo

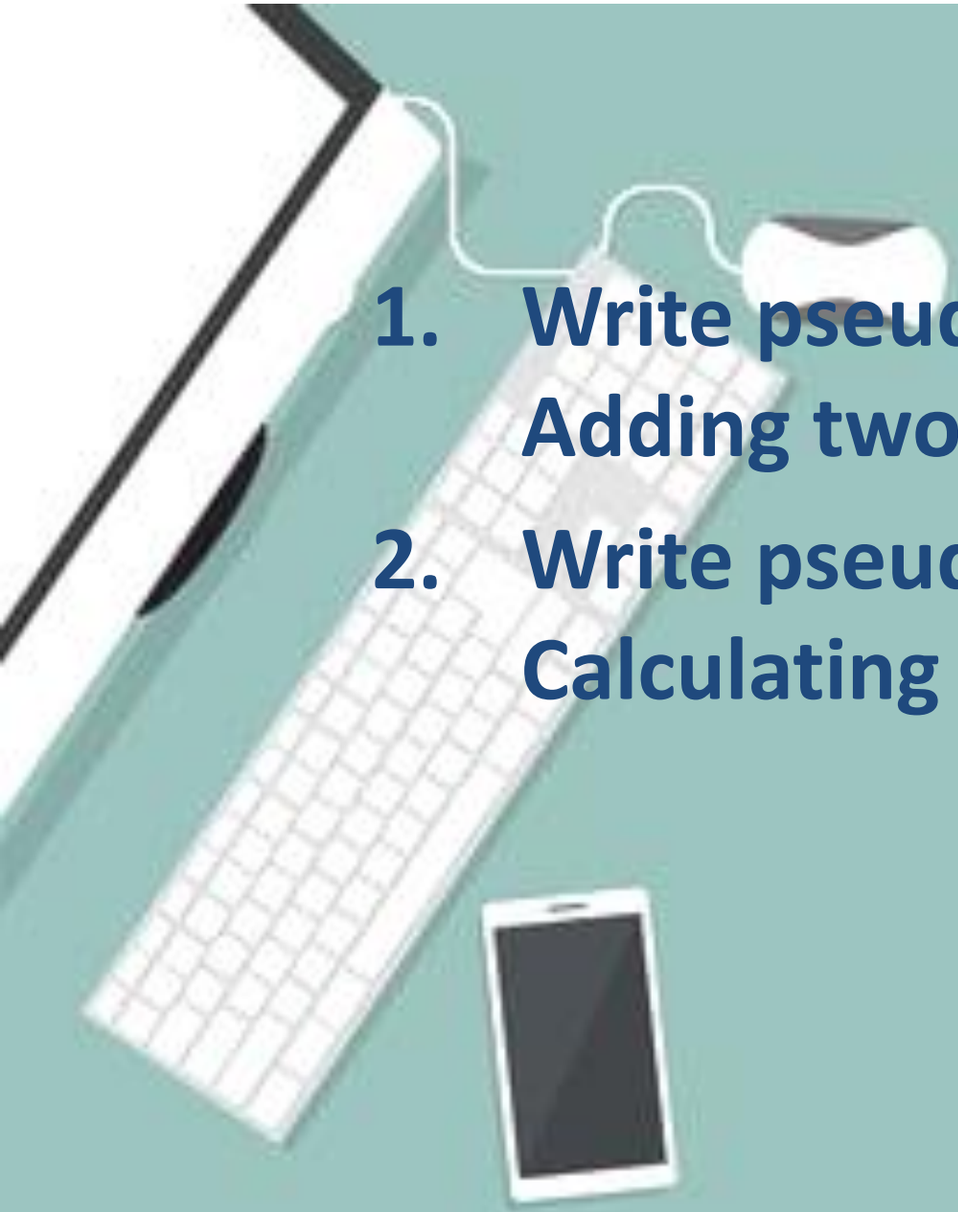
Programming

Unit 3

Grade 9 - ICT

20/07/2020

Home work



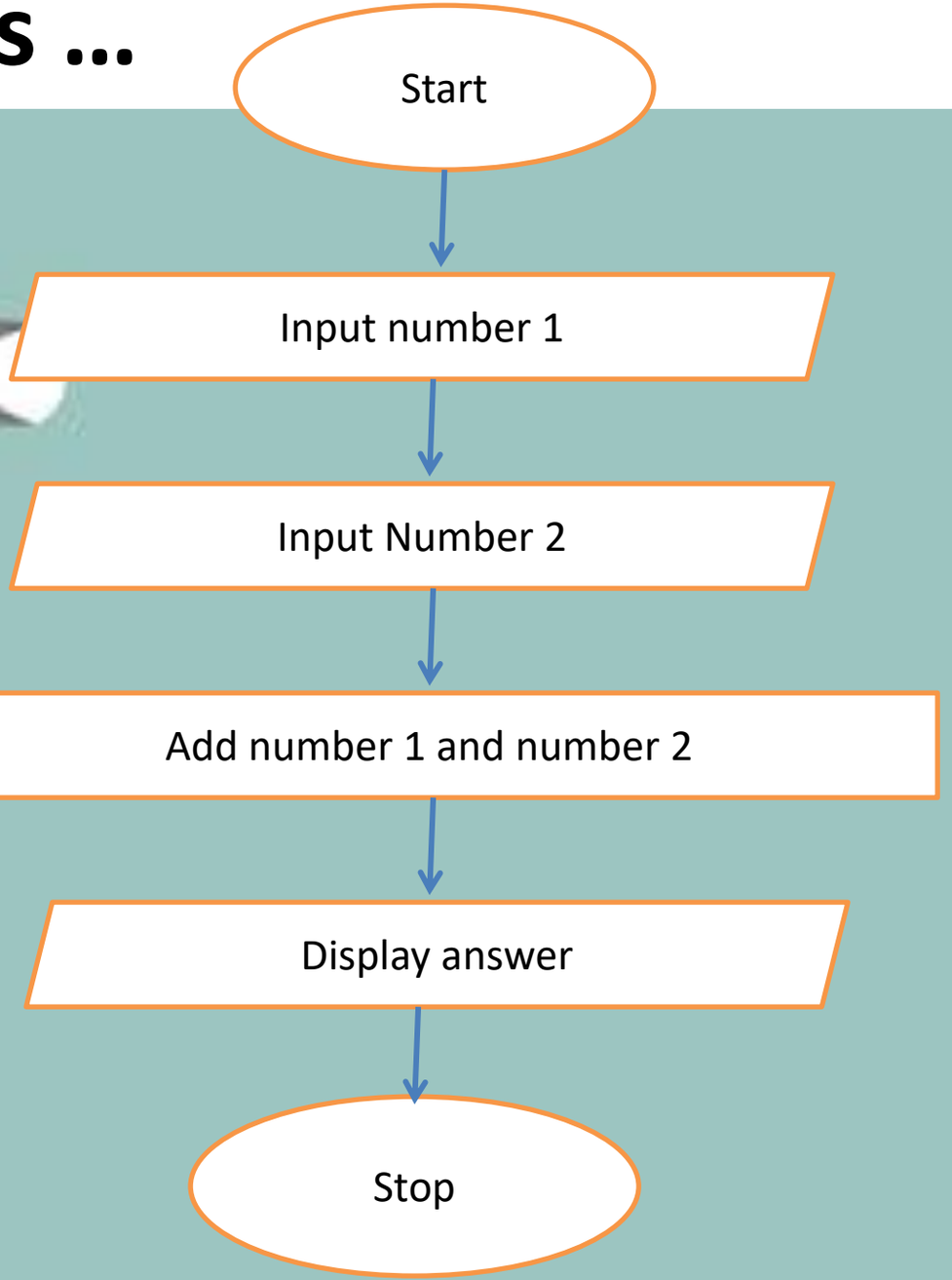
1. Write pseudocode steps and draw a flow chart for Adding two numbers
2. Write pseudocode steps and draw a flow chart for Calculating the Perimeter of the rectangle

Adding 2 numbers

Pseudocode

1. Start
2. Input number 1
3. Input number 2
4. Add number 1 and number 2
5. Display the answer
6. Stop

Adding 2 numbers …

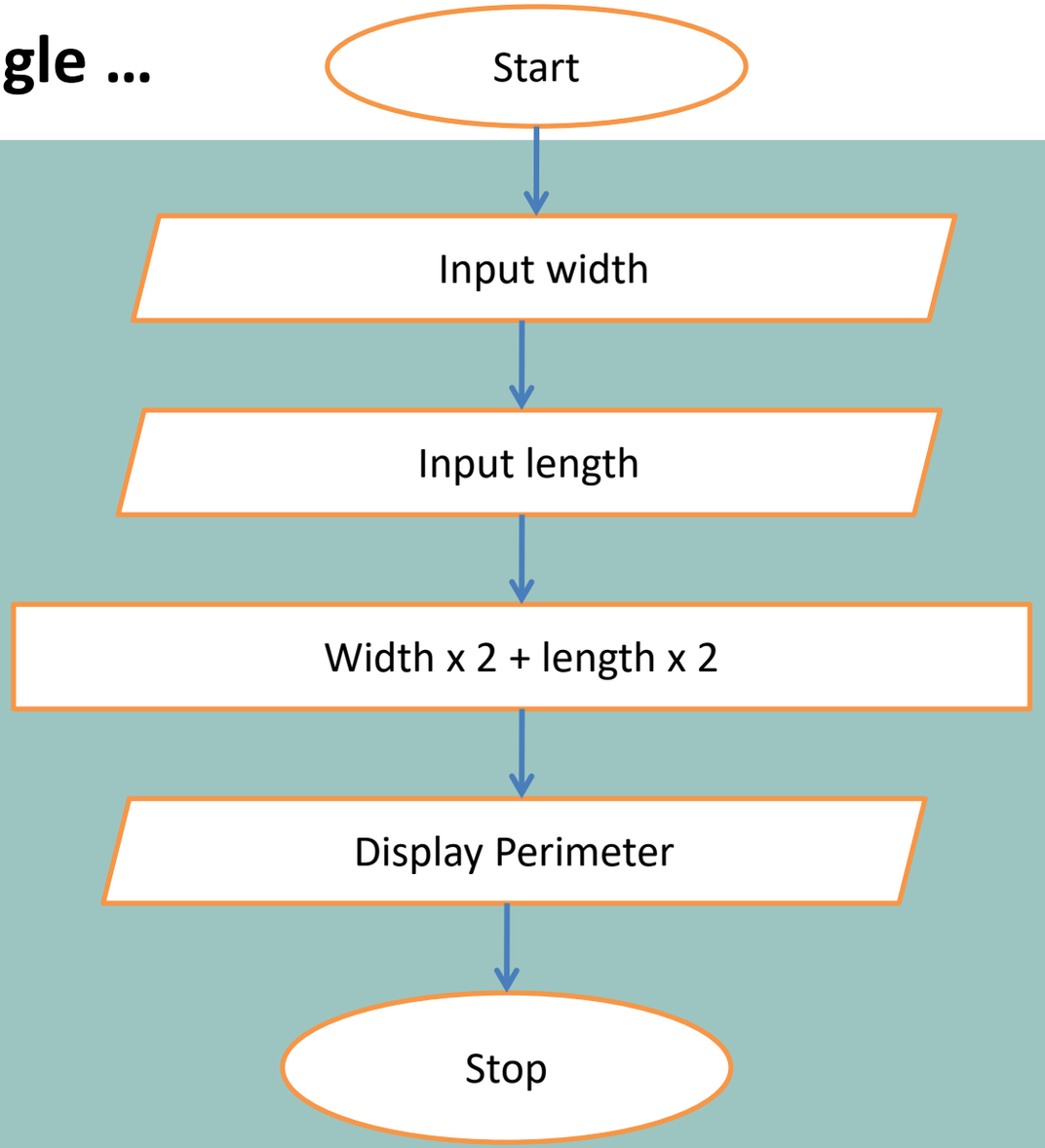


Calculating the Perimeter of the rectangle

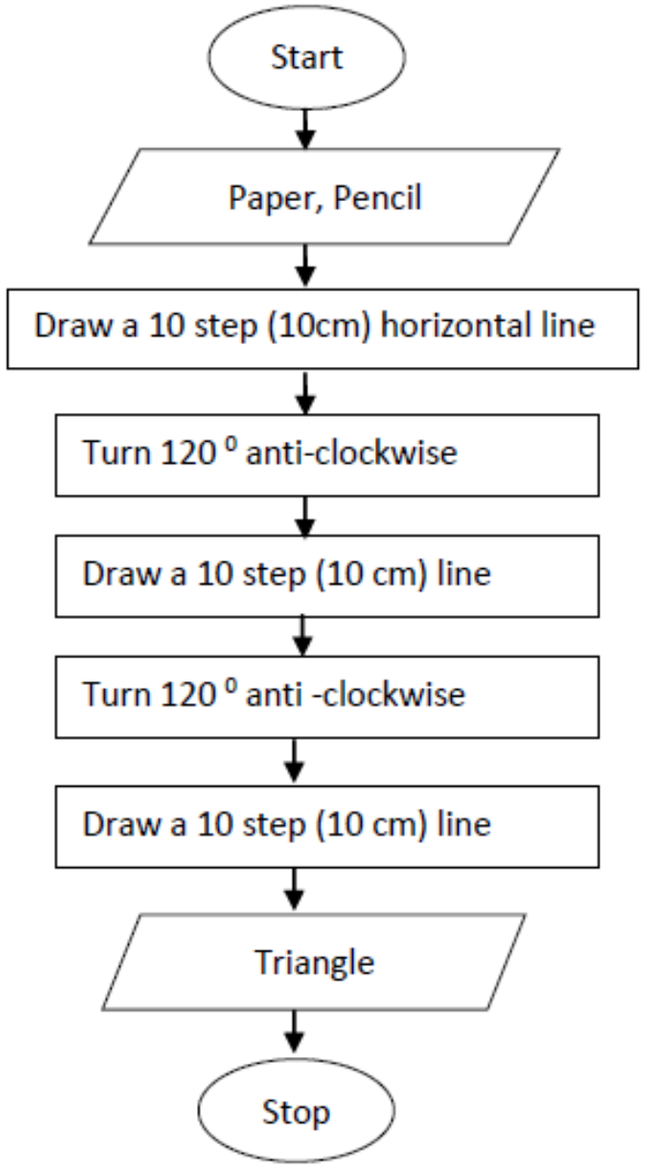
Pseudocode

- Start
- Input width
- Input length
- Perimeter = width x 2 + length x 2
- Display perimeter
- stop

Calculating the Perimeter of the rectangle …



Write the Pseudocode for the following flow chart

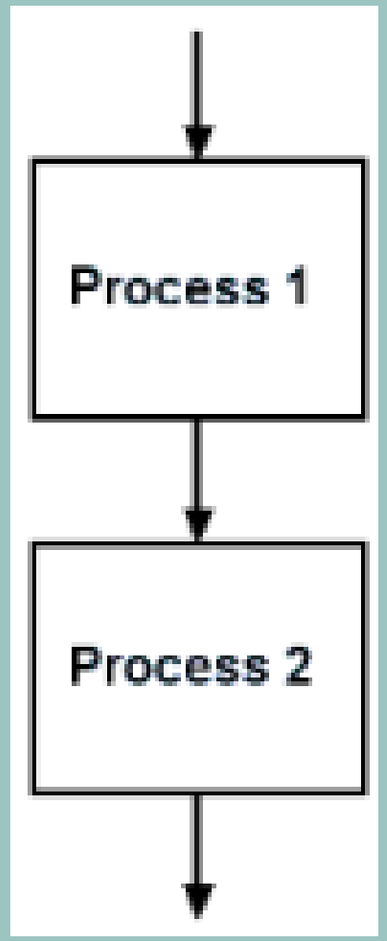


1. Start
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....
8. .....
9. Stop

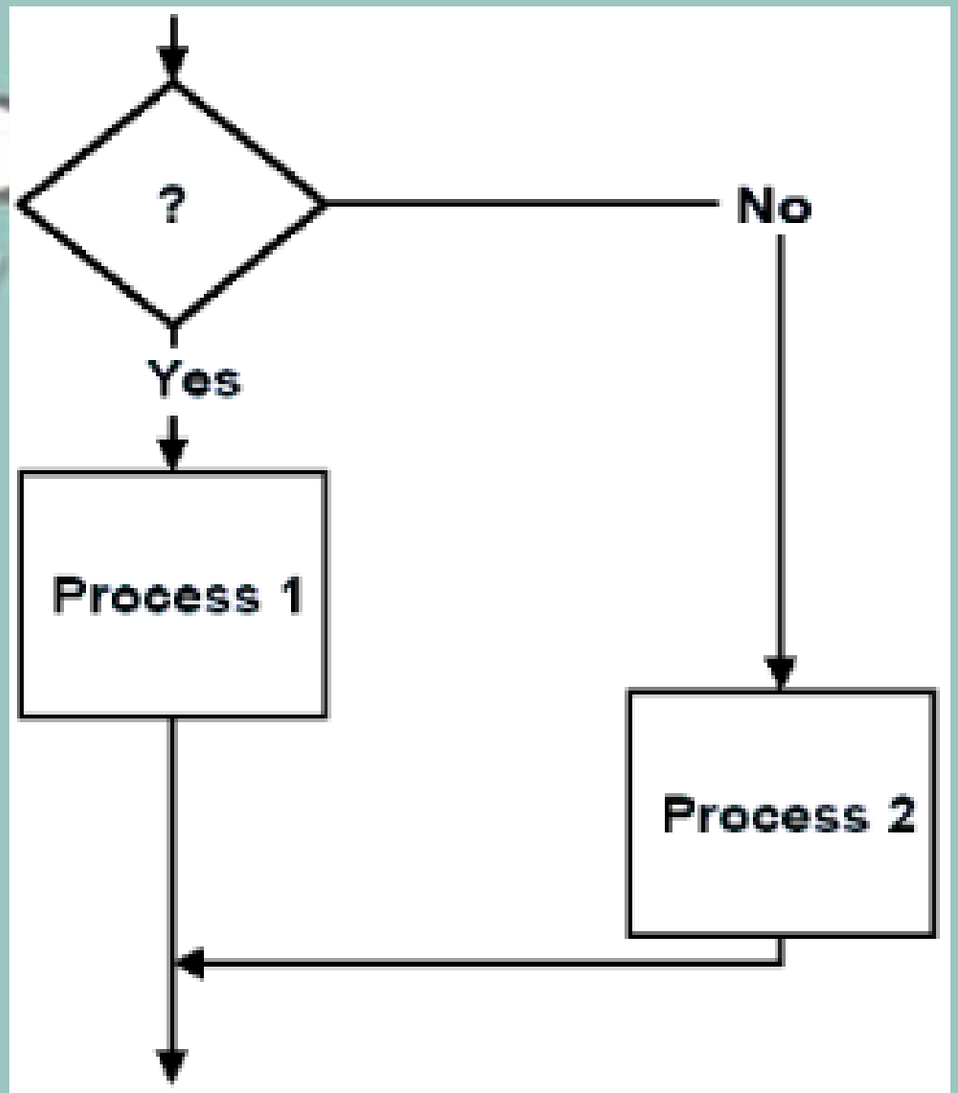
Control structures

Problems are solved using three basic structures.

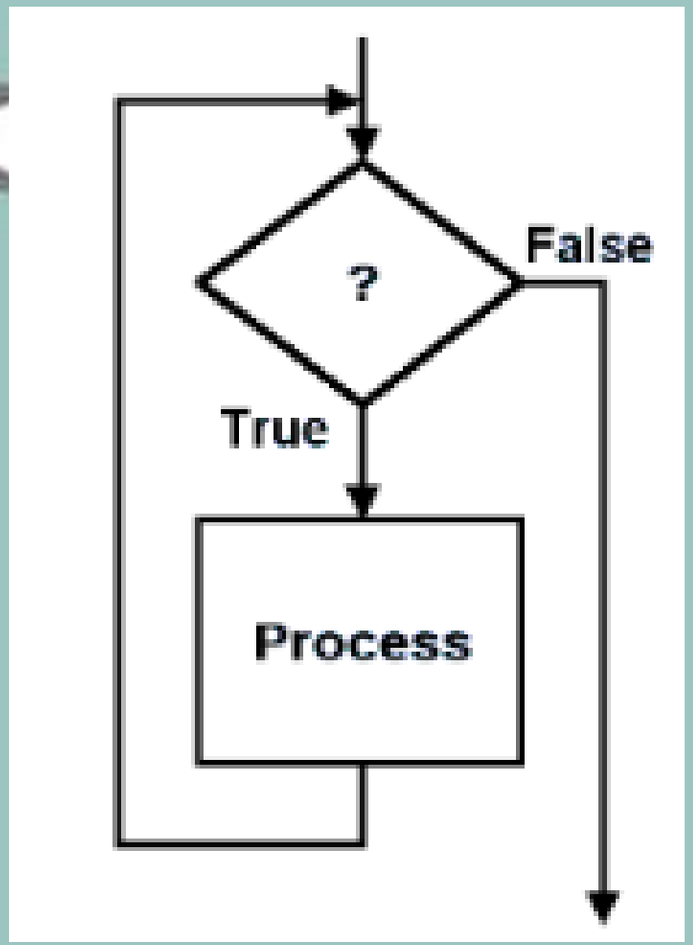
1. Sequence: It is a series of statements that are executed one after another.

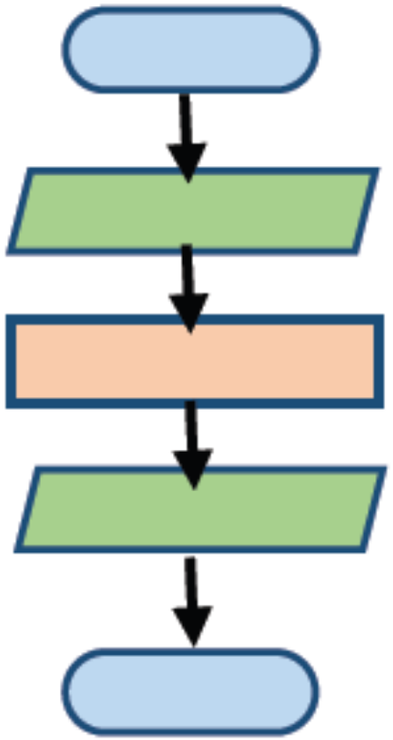
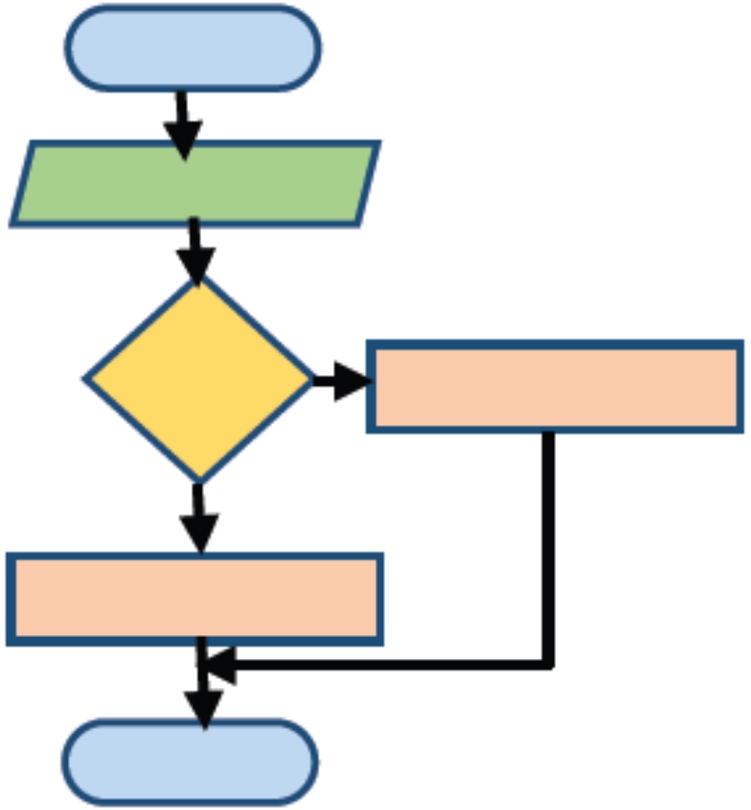
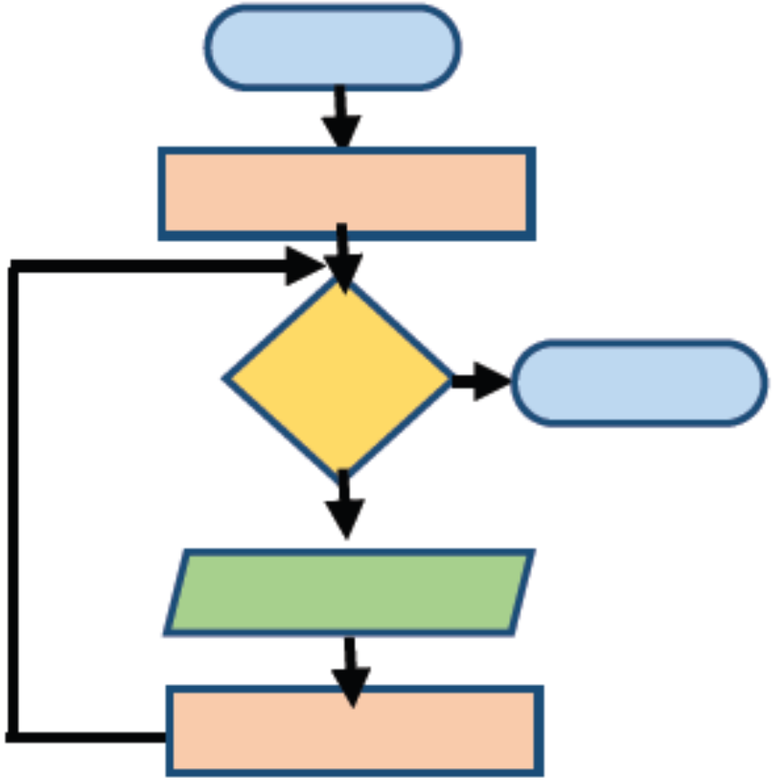


2. Selection: It is used to execute different statements depending on certain conditions.



3. Repetition: It is used to repeat statements while certain conditions are met.

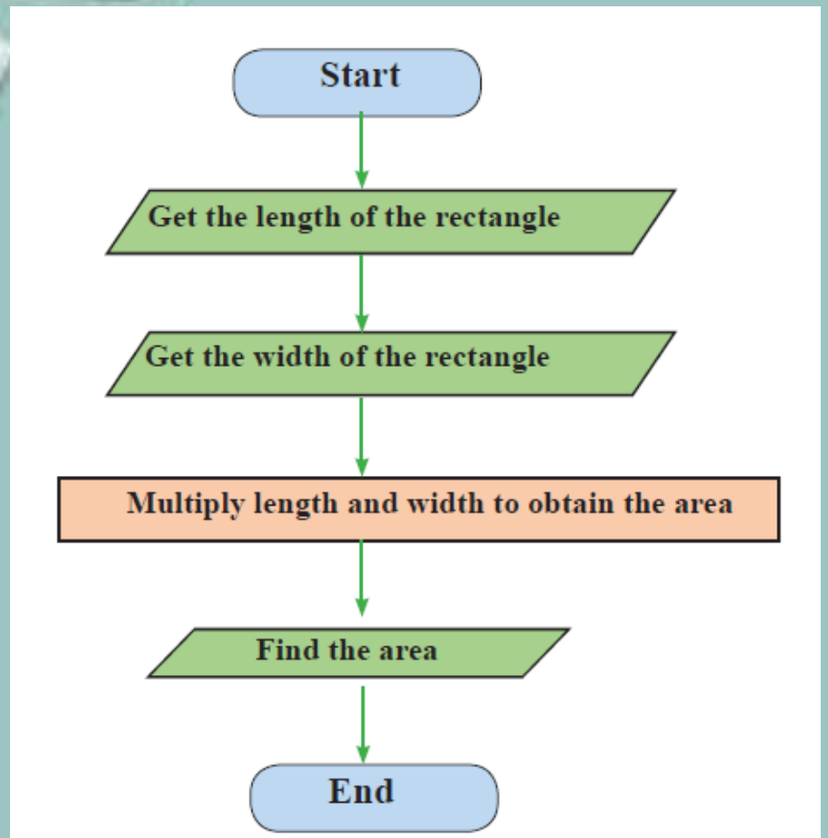


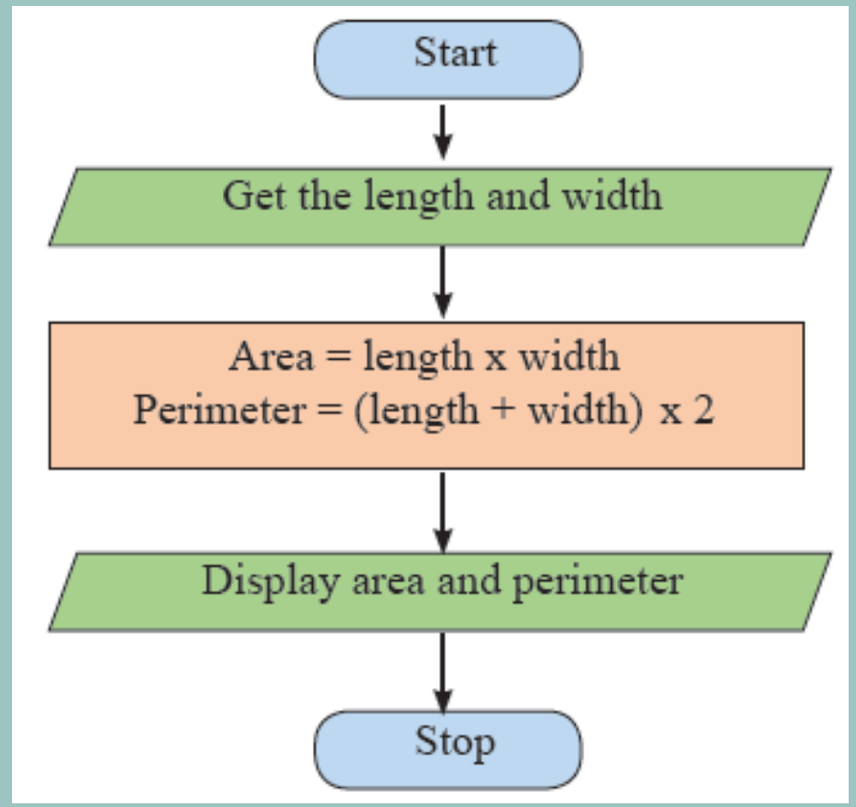
sequence	selection	repetition
		

Sequence

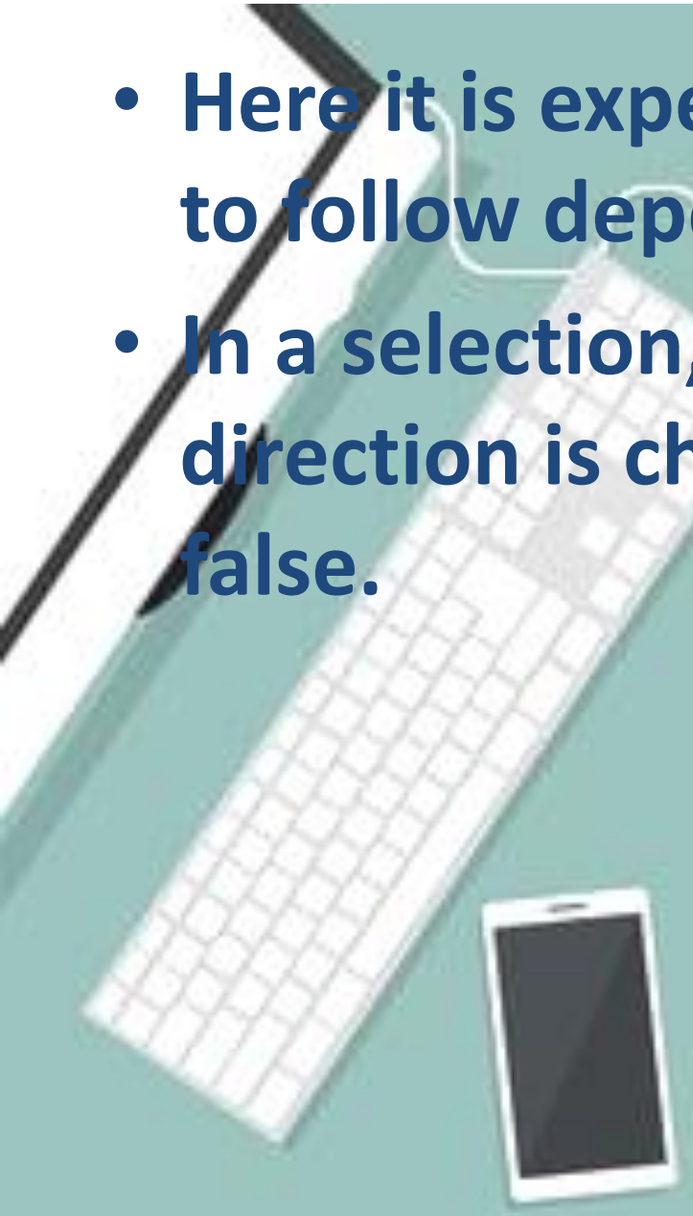
- **Execution of instructions in an algorithm sequentially from top to the bottom is called sequence.**

Example



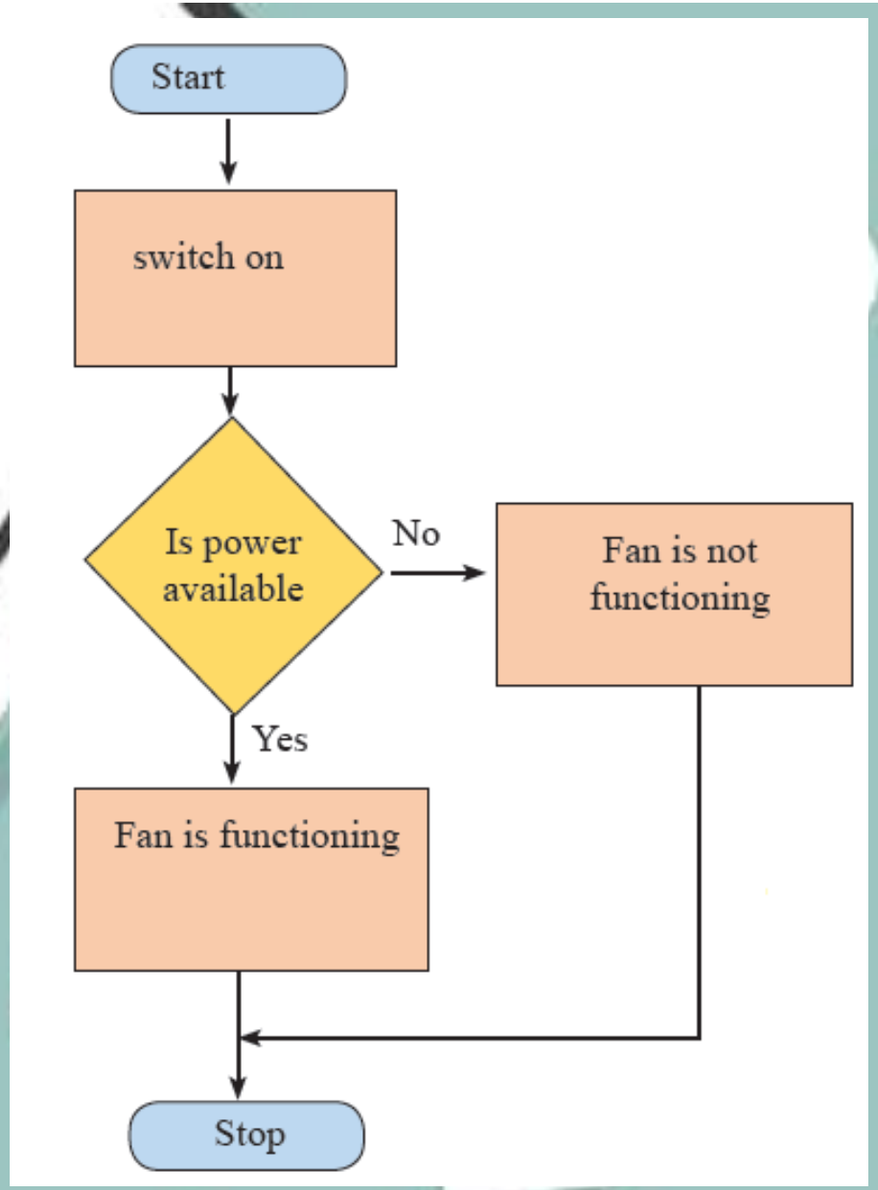


Selection



- Here it is expected to make a making decision on which step to follow depending on the condition given by the algorithm.
- In a selection, the condition is checked first and the flow direction is chosen based on whether the condition is true or false.

Selection …



According to the flow chart, if the power is Available the fan will function ,
if power is not available, the fan will not function

Selection …

- **Pseudocode**

1. Start
2. Switch on
3. If power is available

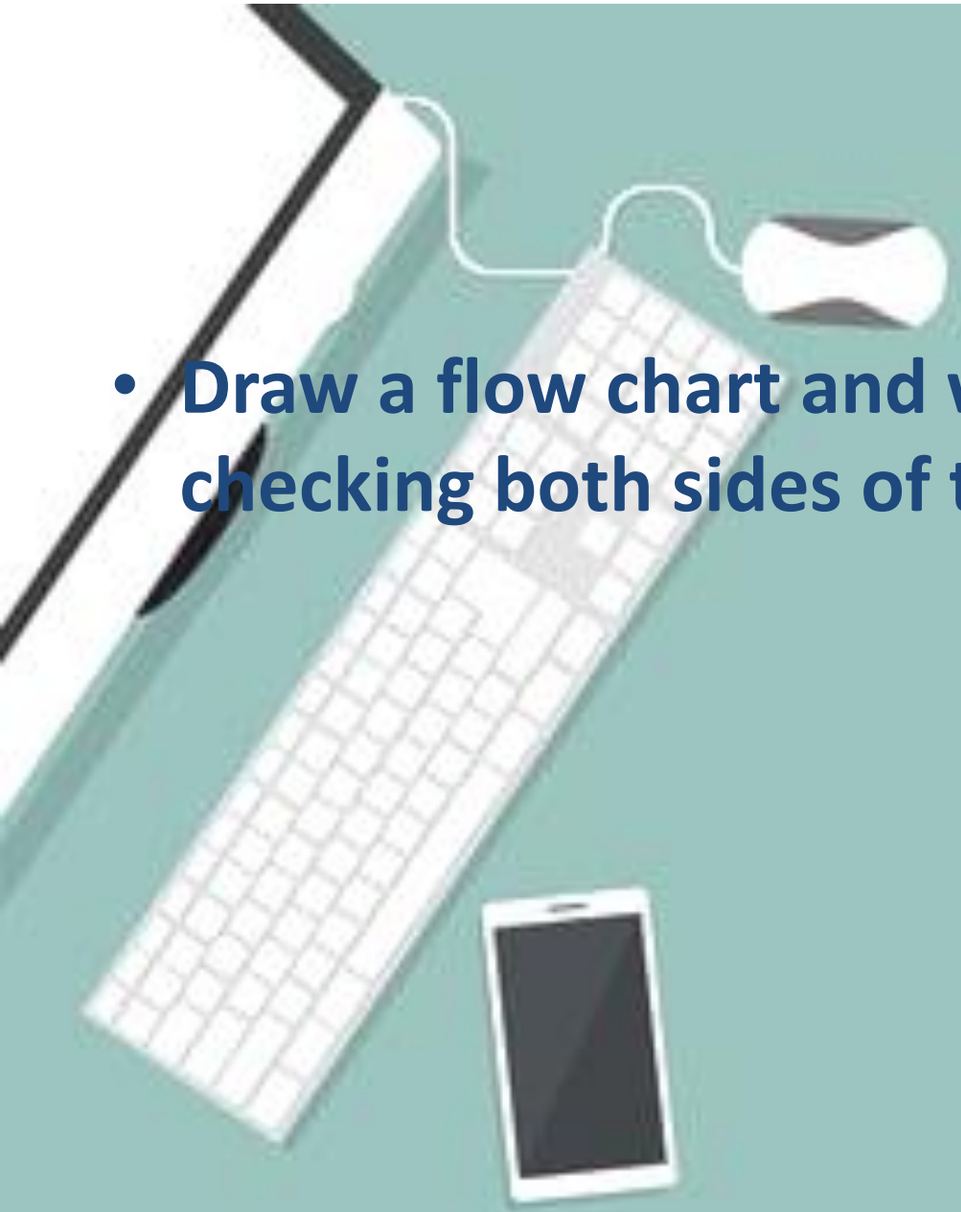
   Fan will function

   Else

   Fan will not function

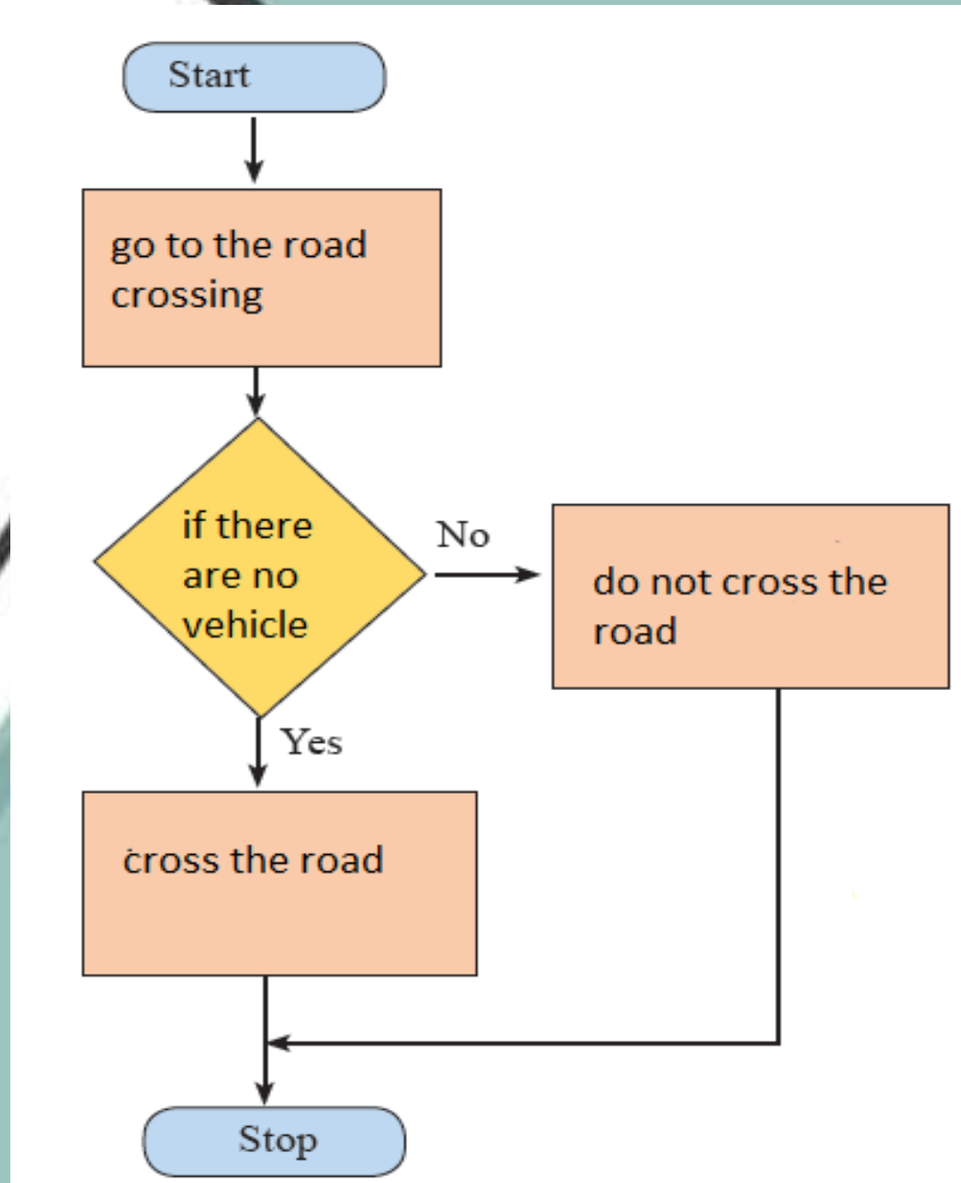
   Endif
4. Stop

Example



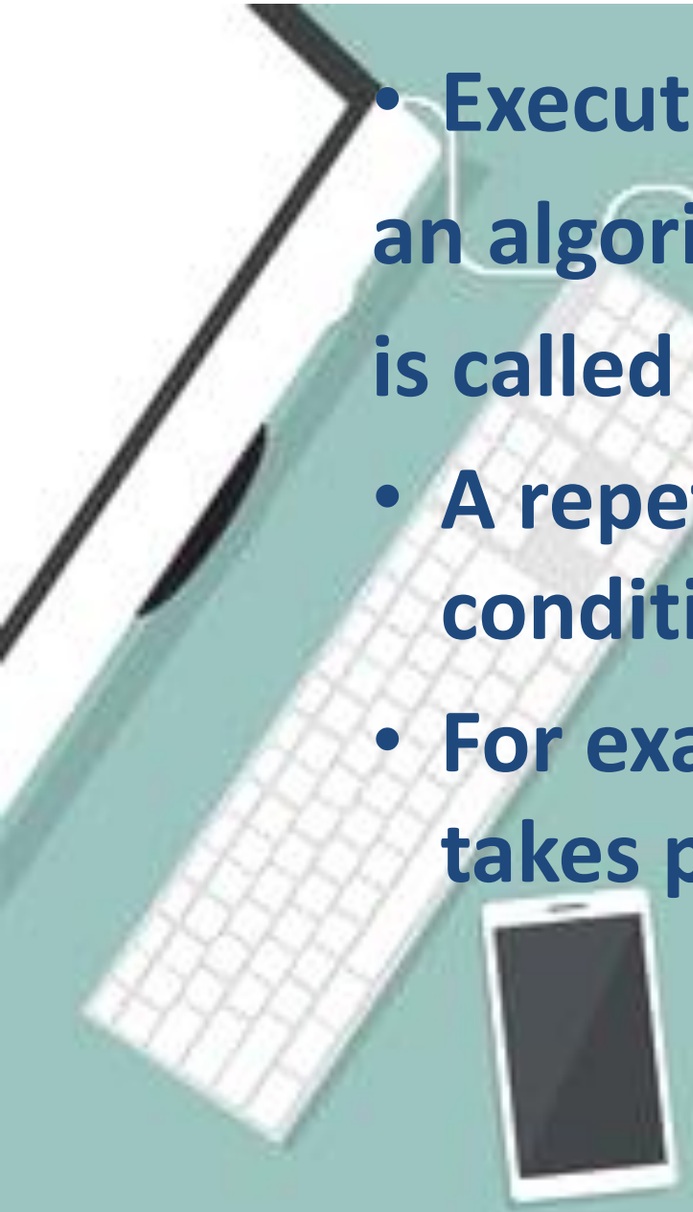
- Draw a flow chart and write a pseudocode for crossing the road by checking both sides of the road

Example …



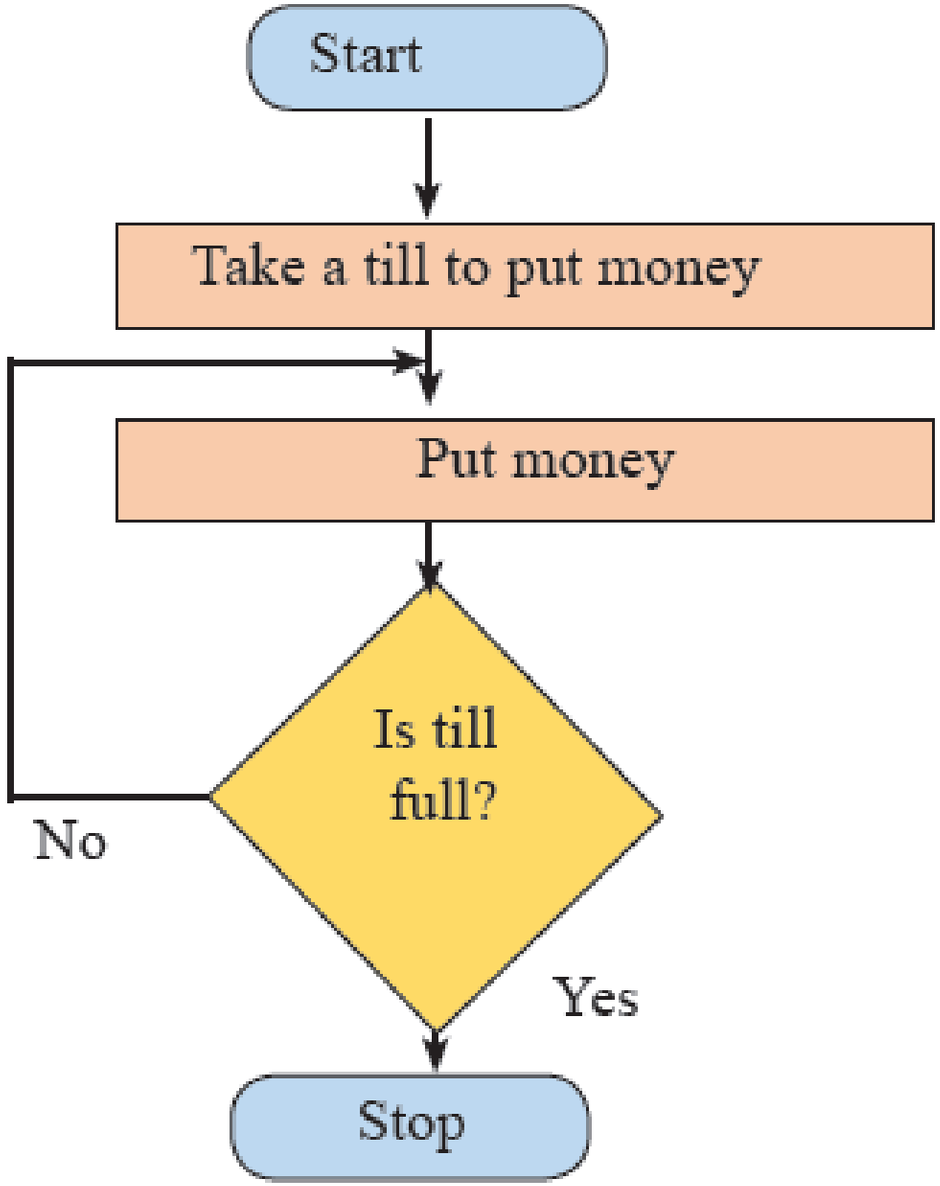
1. Start
2. Go to the Road crossing
3. If there are no vehicles
   cross the road
   Else
   do not cross the road
   Endif
4. Stop

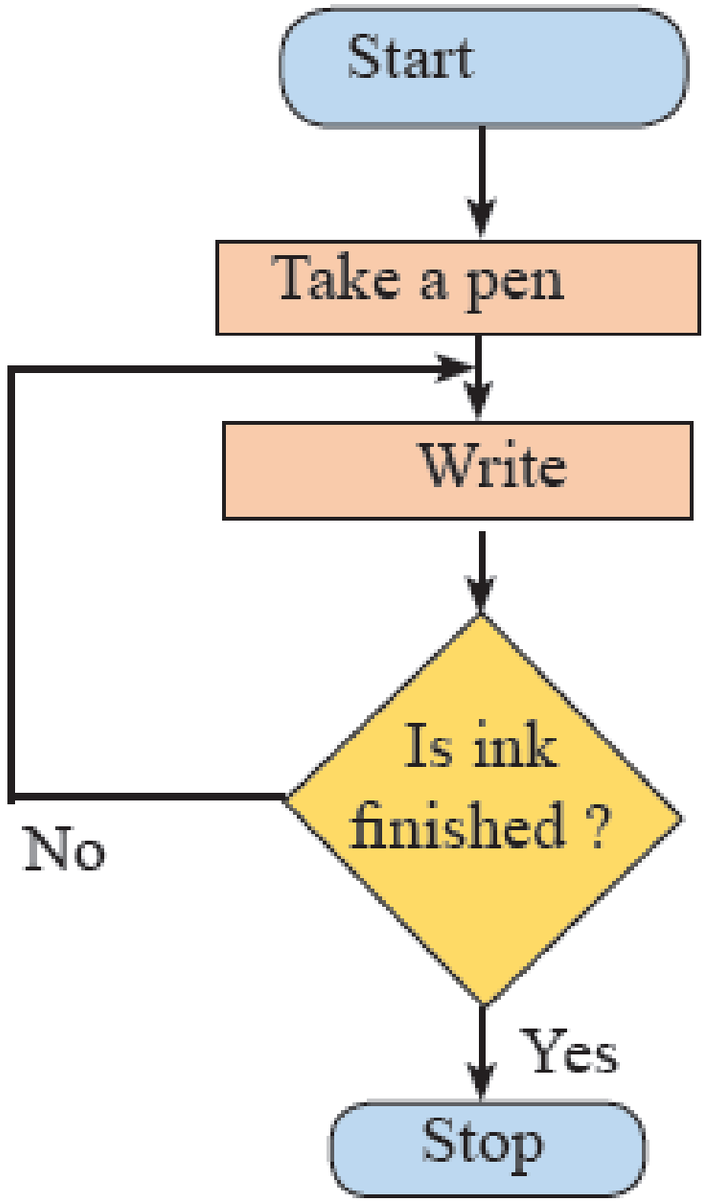
Repetition



- Execution of an instruction or several instructions in an algorithm repeatedly until a condition is satisfied is called repetition.
- A repetition will take place depending on whether a condition is satisfied or not satisfied.
- For example, natural water cycle is a process that takes place repeatedly.

Repetition …


Start
Take a till to put money
Put money
Is till full?
No
Yes
Stop


Start
Take a pen
Write
Is ink finished ?
No
Yes
Stop

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Have a nice day….

Prepared by Kinkini Kumarage