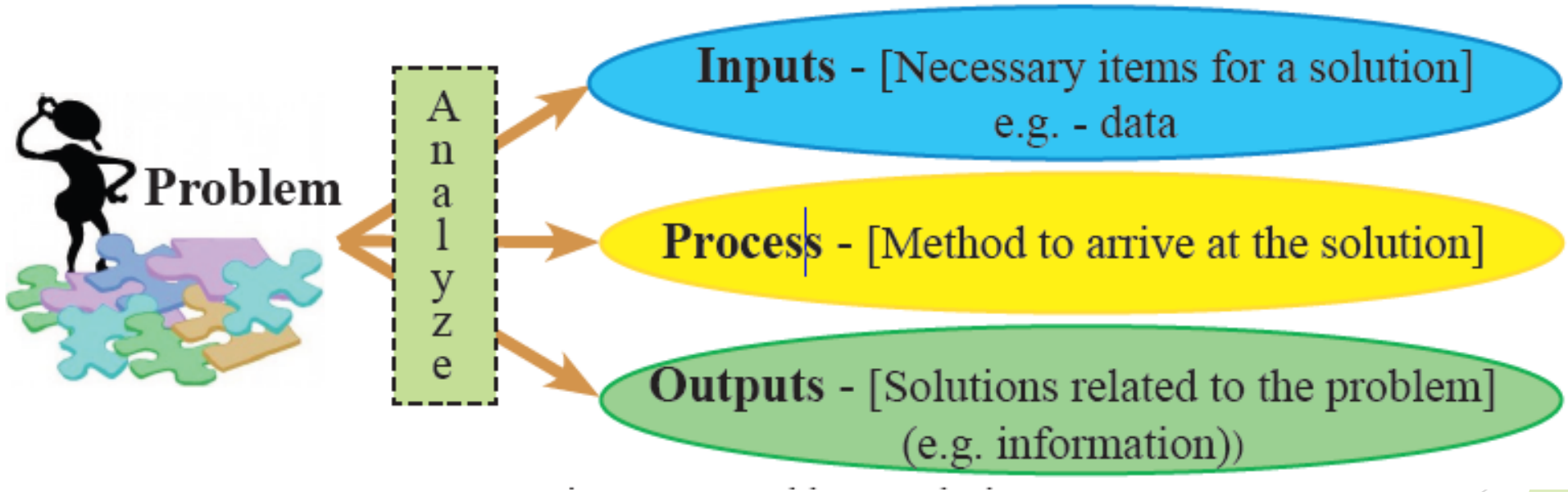
4.Programming

Grade 8

Problem analysis

In order to develop a computer program, it is essential to identify the *inputs, process and outputs* by analyzing a problem.



Control Structures

- there are three types of control structures as
  - sequence
  - selection
  - repetition

sequence

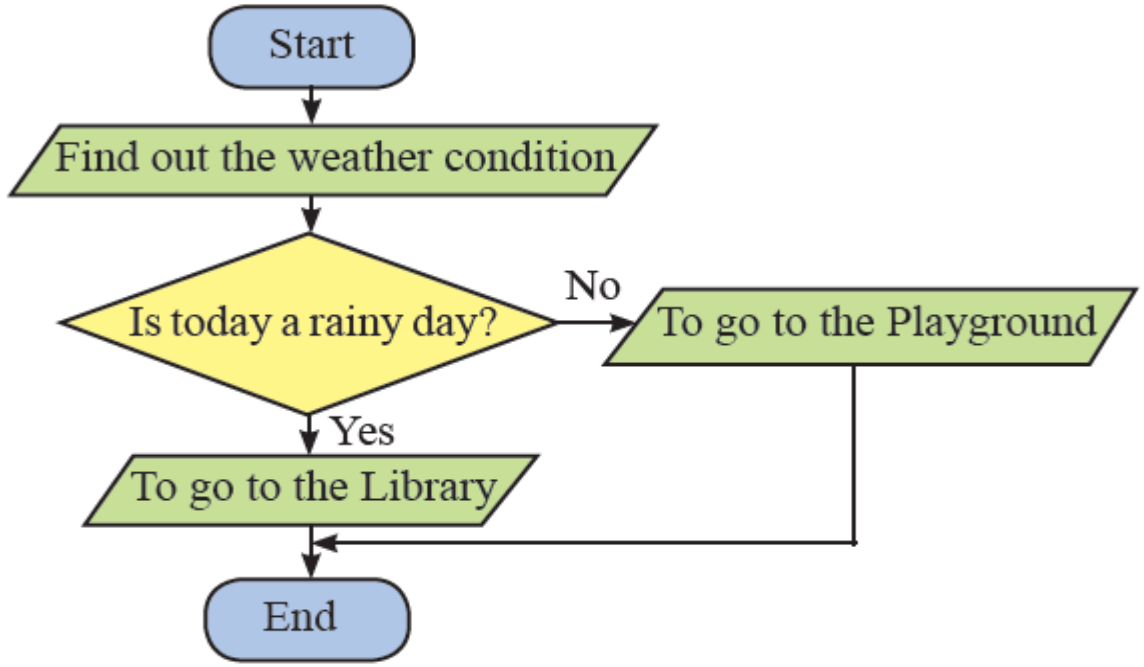
If the steps are carried out one after the other from the beginning to the end in a particular consecutive order, it is called a *sequence*.

Selection

- Selection decides which step(s) are executed depending on whether a condition of an algorithm is satisfied or not.

Example

Indicate the above example in a flowchart.



Selection control structures

Two types of selection control structures can be used in developing Scratch programs;

1. IF... THEN instructions block
2. IF... THEN... ELSE instructions block

Comparison blocks

Check whether the value on the left is smaller than the value of the right

Check whether the value on the left equals to the right

Check whether the value on the left is greater than the one on the right

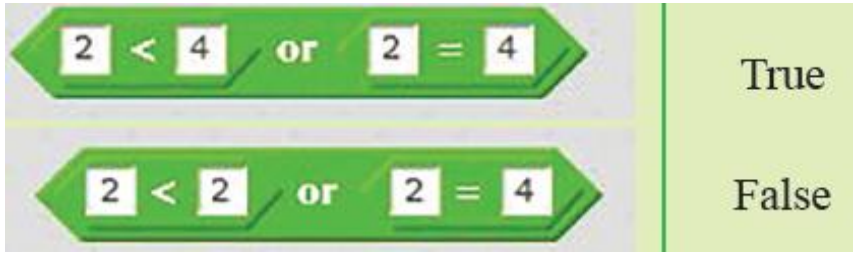
Instruction with logical blocks

f both expressions on left and right are true only, the output is true.

Example

If both expressions on left and right are true or if only one is true, the output is true

Example

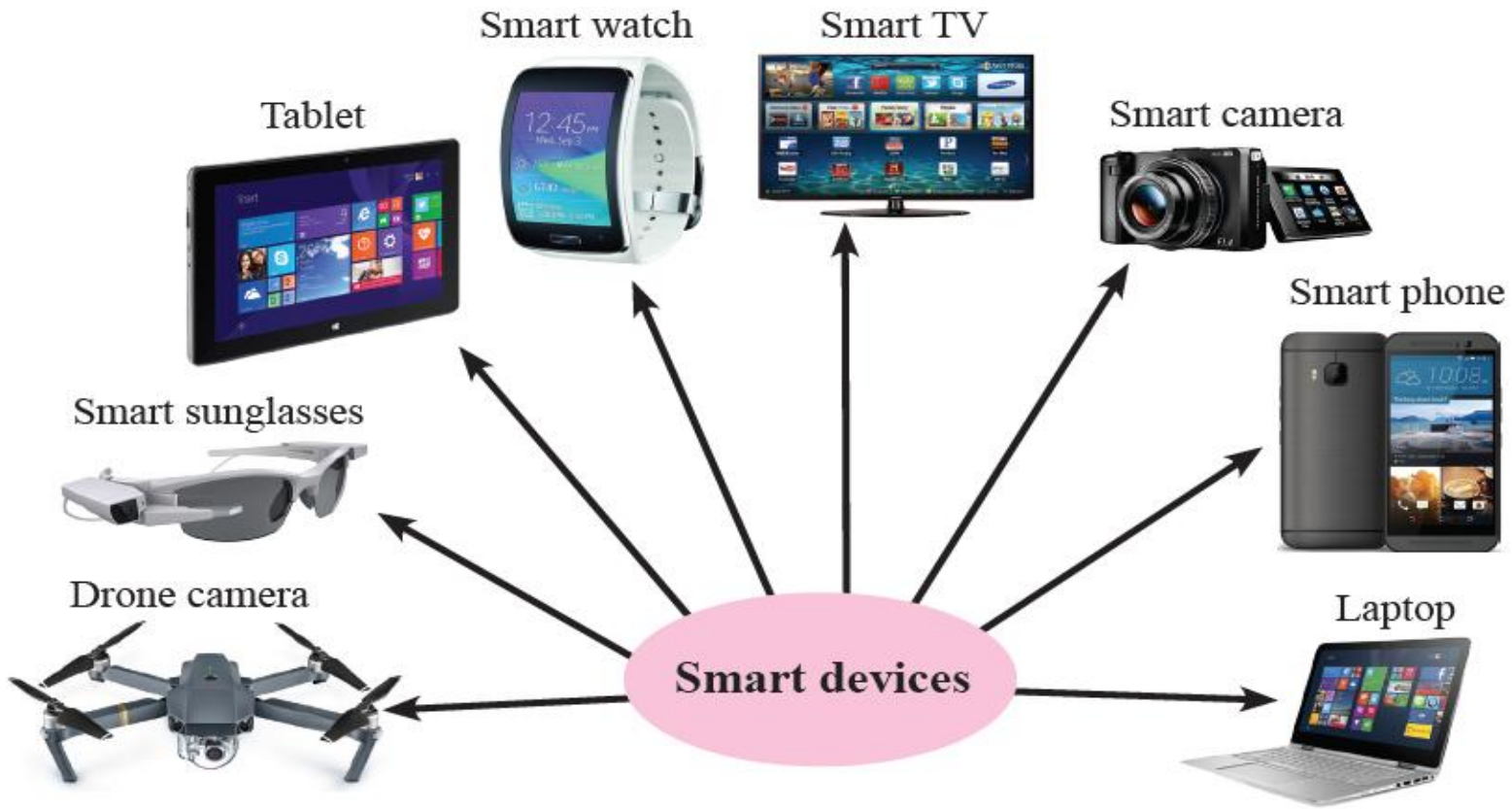


If the expression is false, the output is true. If the expression is true, the output is false.

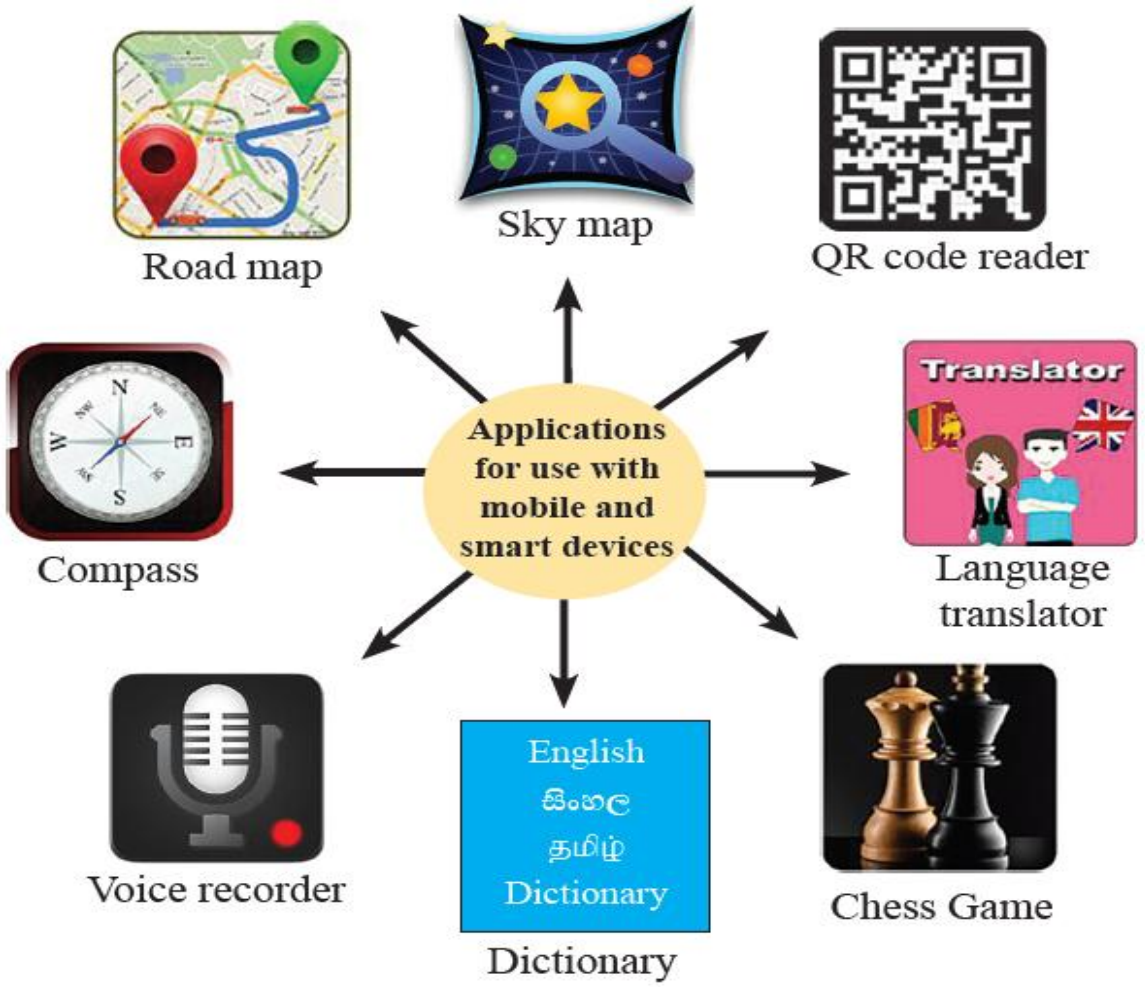
Example

Applications for mobile and smart devices

- **Mobile and smart devices**



Applications of mobile and smart devices



Activity

1. Write down the smart devices and their examples of use
2. Find the Mobile and smart devices and their uses

THANK YOU