

Algorithms II

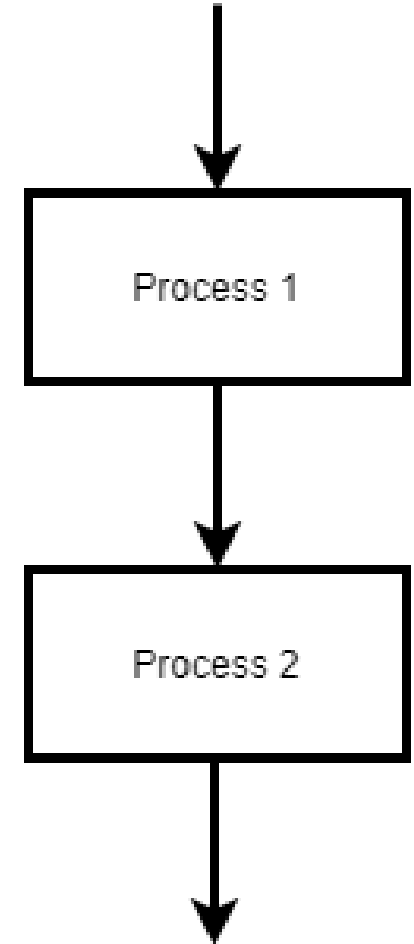
CEN111 Algorithms and Programming I

Basic Control Structures

- Sequence
- Selection
- Loop

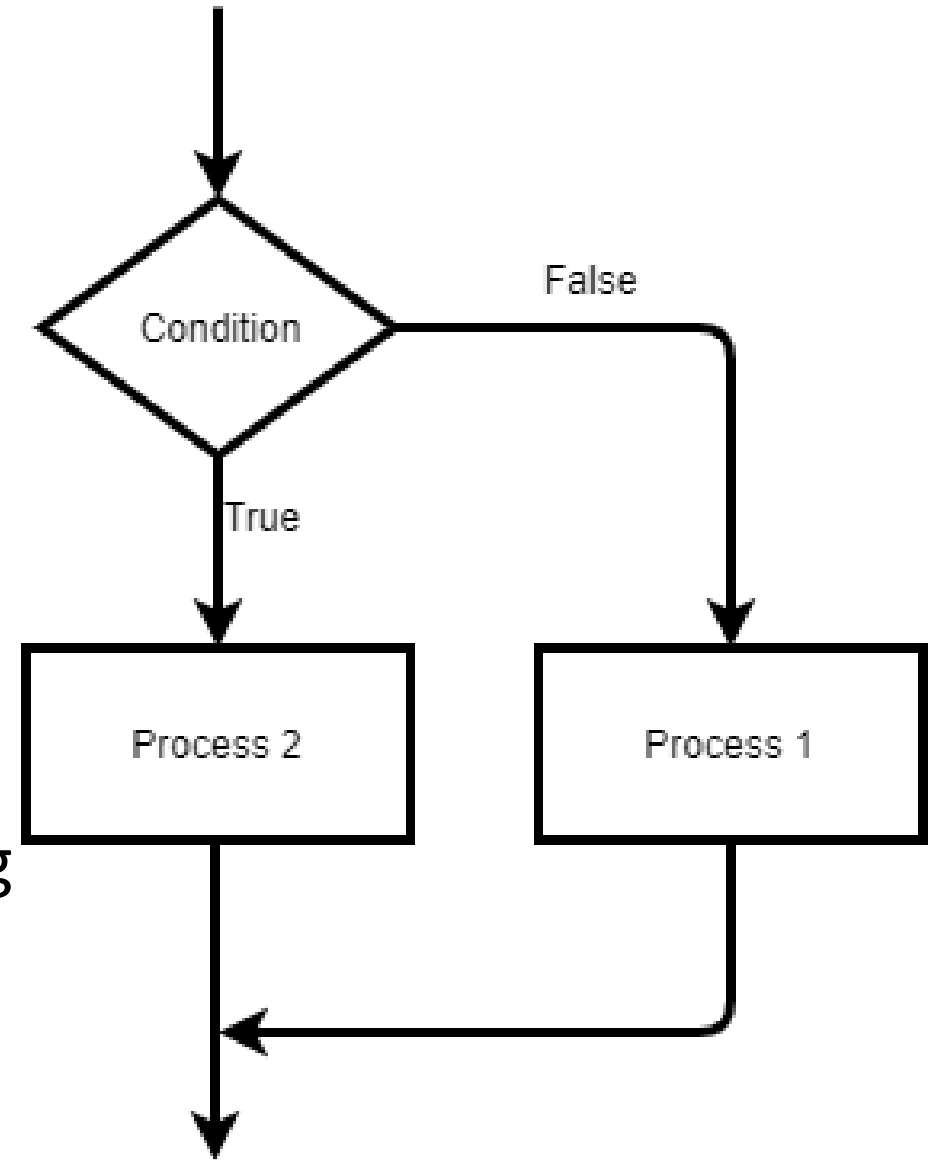
Basic Control Structures

- Sequence
 - Steps that execute in sequence are represented by symbols that follow each other top to bottom or left to right.



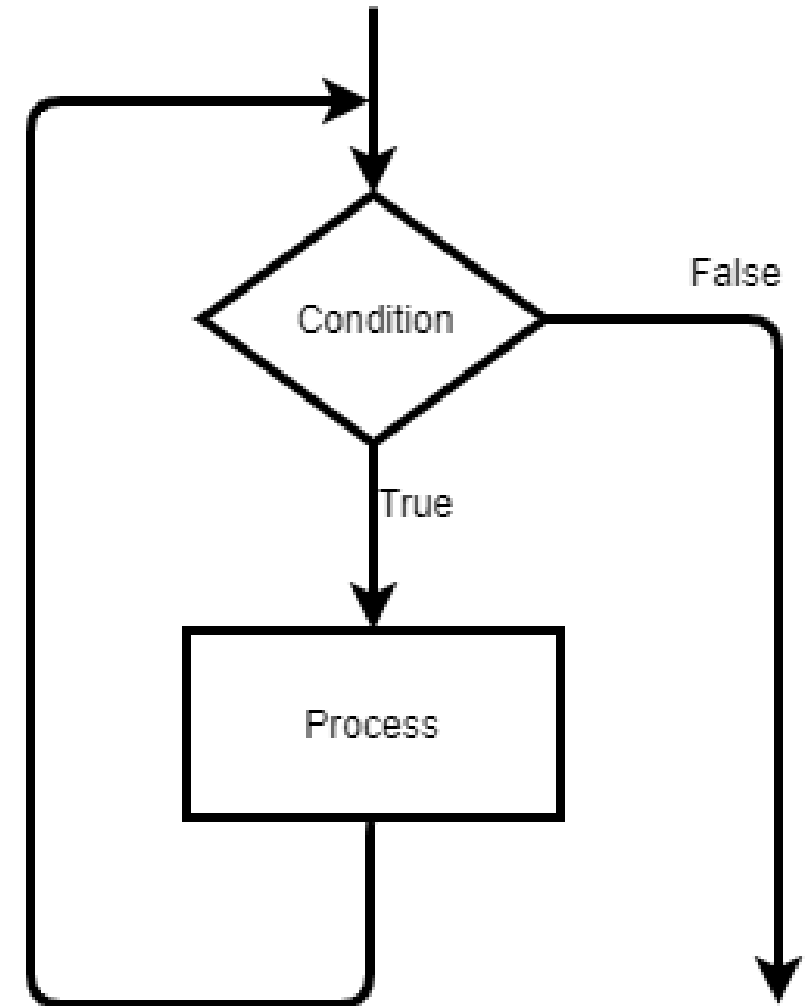
Basic Control Structures

- Selection
 - Once the condition is evaluated, the control flows into one of two paths.
 - Once the conditional execution is finished, the flows rejoin before leaving the structure.



Basic Control Structures

- Loop
 - Either the processing repeats or the control leaves the structure.



Algorithms

- Prepare a flowchart to read the marks of a student and classify them into different grades. If the marks secured are greater than or equal to 90, the student is awarded Grade A; if they are greater than or equal to 80 but less than 90, Grade B is awarded; if they are greater than or equal to 65 but less than 80, Grade C is awarded; otherwise Grade D is awarded.

Algorithms

- Draw a flowchart to find the sum of the first 50 natural numbers.

Algorithms

- Develop the algorithm for finding the sum of the series $1 + 2 + 3 + 4 + \dots$ up to N .

Algorithms

- Develop the algorithm for finding the sum of the series $2 + 4 + 6 + \dots$ up to N .

Homework

- Draw a flowchart to find the roots of a quadratic equation.
- Draw a flowchart to find the greatest common divisor of two given number.