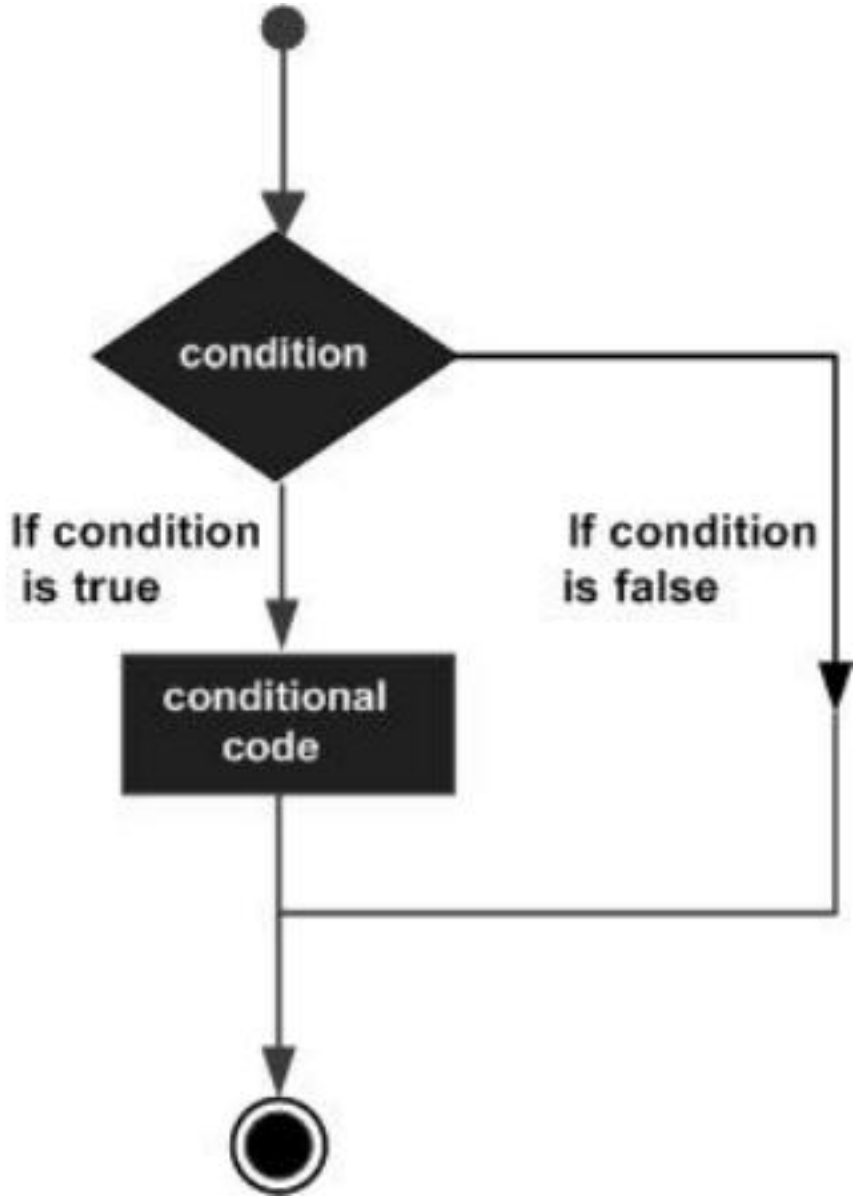
Chapter 2 :- Control Structures

Decision making structures

Decision making structures require that the programmer specifies one or more conditions to be evaluated or tested by the program, along with a statement or statements to be executed if the condition is determined to be true, and optionally, other statements to be executed if the condition is determined to be false.

C programming language assumes any non-zero and non-null values as true, and if it is either zero or null, then it is assumed as false value.

Show below is the general form of a typical decision making structure found in most of the programming languages :-

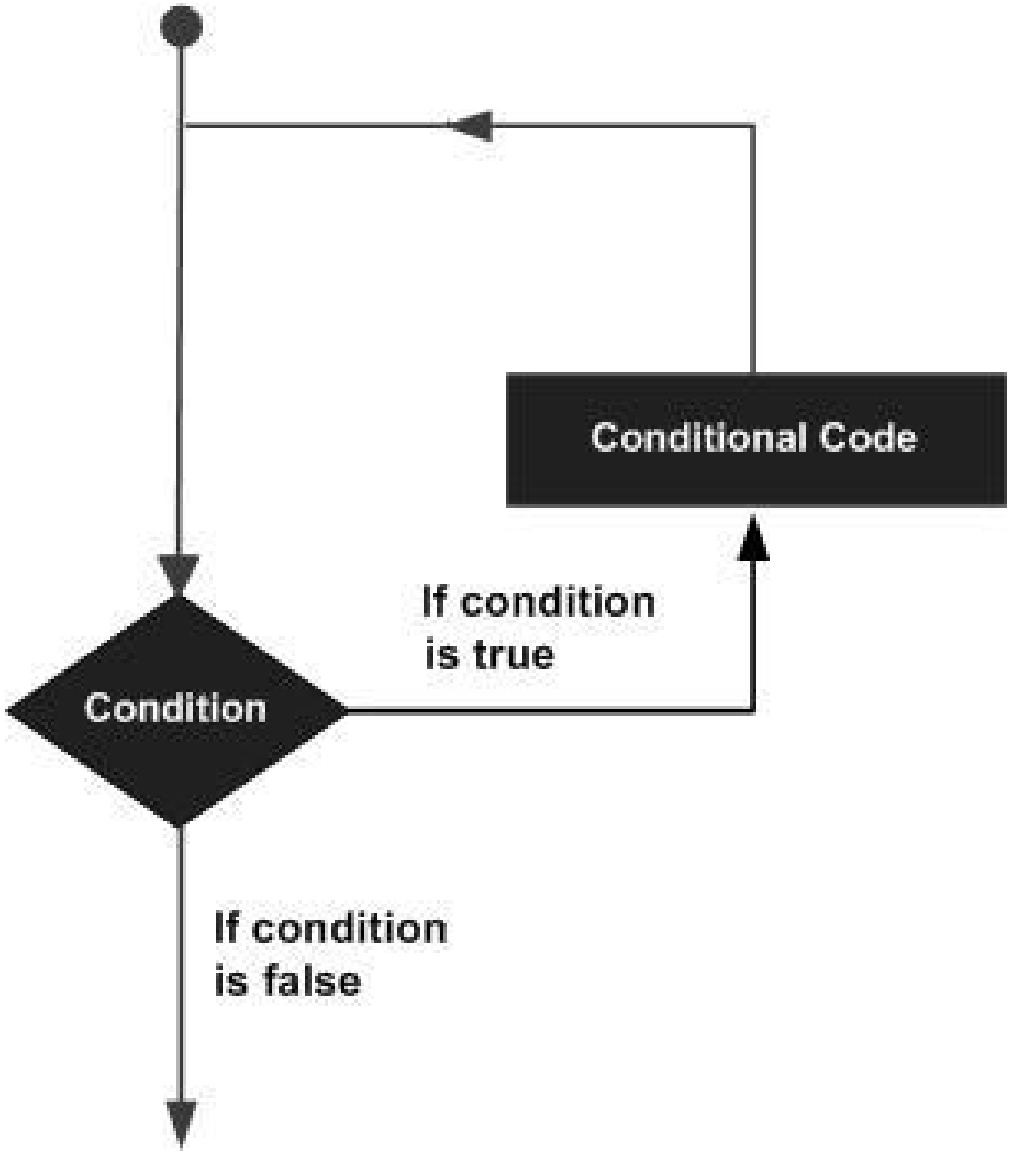

condition
If condition
is true
If condition
is false
conditional
code

Loop Control Structures

You may encounter situations, when a block of code needs to be executed several number of times. In general, statements are executed sequentially: The first statement in a function is executed first, followed by the second, and so on.

Programming languages provide various control structures that allow for more complicated execution paths.

A loop statement allows us to execute a statement or group of statements multiple times. Given below is the general form of a loop statement in most of the programming languages −


Conditional Code
If condition
is true
Condition
If condition
is false

Nested Structures

C provides us the feature of nesting one structure within another structure by using which, complex data types are created.

For example, we may need to store the address of an entity employee in a structure. The attribute address may also have the subparts as street number, city, state, and pin code.

Hence, to store the address of the employee, we need to store the address of the employee into a separate structure and nest the structure address into the structure employee.

1) Separate structure

Here, we create two structures, but the dependent structure should be used inside the main structure as a member.

2) Embedded structure

The embedded structure enables us to declare the structure inside the structure. Hence, it requires less line of codes but it can not be used in multiple data structures.