Python: Pre-work

Topics Covered in Pre-Work

- Importance and Applications of Programming Languages
- Variables in Programming
- Decision Making Statements
- Looping Statements
- Functions in Programming
- Algorithmic Approach to Solve a Problem

Importance and Applications of Programming Languages

- The programing language enables us to write efficient programs and develop online solutions such as- mobile applications, web applications, games, etc.
- In order to write instructions for machines to do something you must agree on the “code” and each action must have a precise, unambiguous meaning. A programming language is a way to communicate with the machines.
- Professions and Industries:
  - Python developers, software engineers, back end developers, Python programmers
  - Used in information technology, engineering, professional services and design

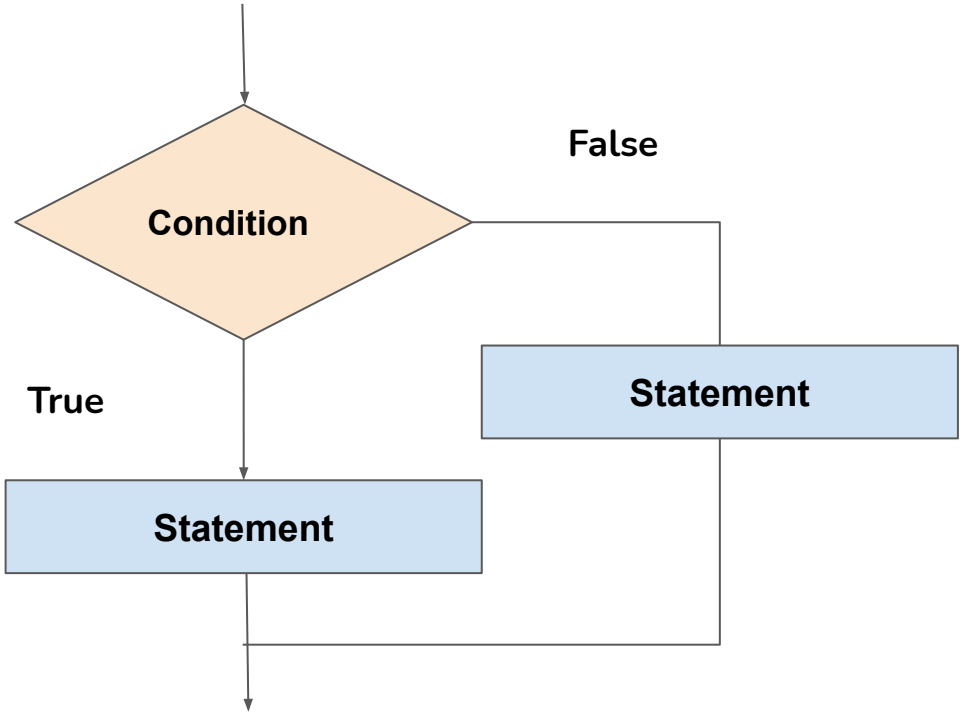
Variables in Programming

- A variable is a named location used to store data in the memory. It is helpful to think of variables as a container that holds data that can be changed later in the program. For example,
  - a = 10
- Here, we have created a variable named ‘a’. We have assigned the value 10 to the variable.
- You can think of variables as a bag to store books in it and that book can be replaced at any time.
  - a = 10
  - a = 1.1

Decision Making Statements

Conditional Statement in Python perform different computations or actions depending on whether a specific Boolean constraint evaluates to true or false. This can be done using:

- if statements
- if-else statements
- Nested if



Looping Statements

Looping statements are used to repeat a task multiple times. The following loops can be used in Python:

while	The while statement is used for repeated execution as long as an expression is true.
for	The for statement is used to iterate over the elements of a sequence (such as a string, tuple or list) or other iterable object.
Nested Loops	You can use one or more loop inside any another while or for loop.

Functions in Programming

- A function is a block of code which only runs when it is called.
- You can pass data, known as parameters, into a function.
- A function can return data as a result.
- In Python, a function is defined using the ‘def’ keyword.

Calling a Function

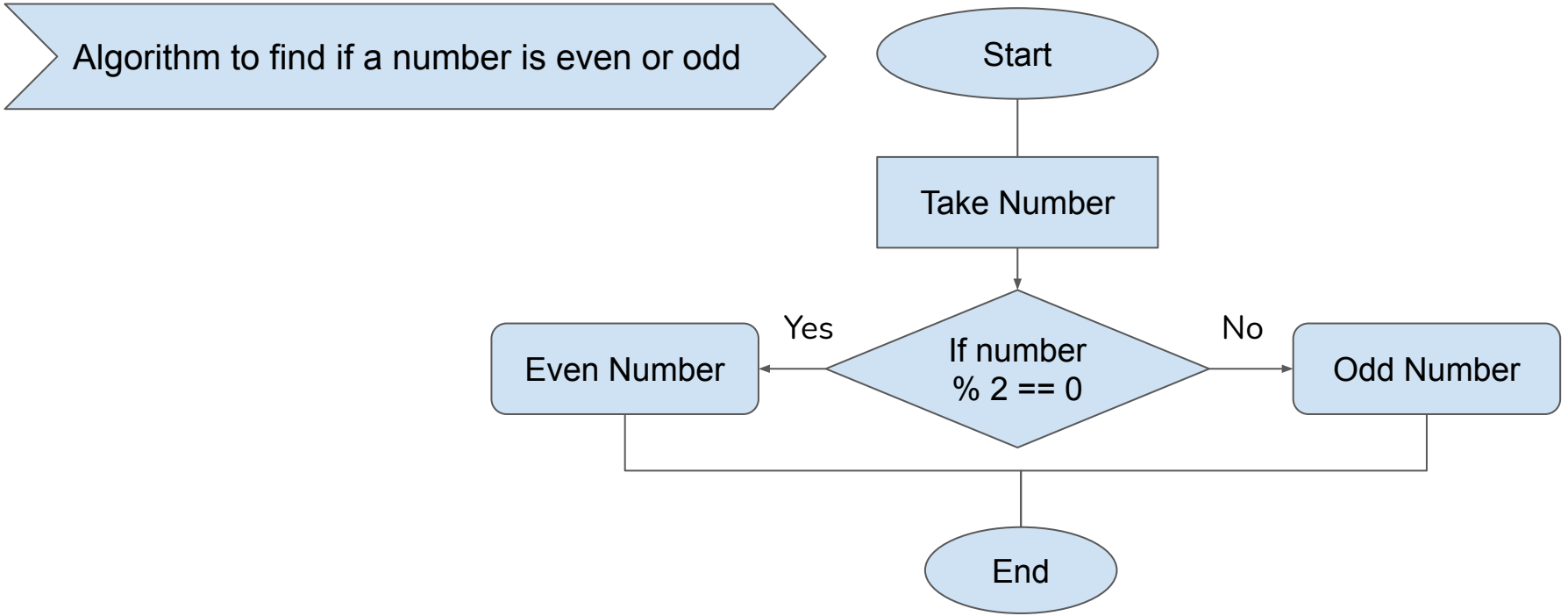
To call a function, use the function name followed by parenthesis

Arguments

Information can be passed into functions as arguments. Arguments are specified after the function name, inside the parentheses.

Algorithmic Approach to Solve a Problem

- An algorithm is a defined set of step-by-step procedures that provides the correct answer to a particular problem.



Great Learning
POWER AHEAD

Happy Learning !