PYTHON

INTRODUCTION

Python is a cross-platform programming language, which means that it can run on multiple platforms like Windows, macOS, Linux, and has even been ported to the Java and .NET virtual machines. It is free and open-source.Even though most of today's Linux and Mac have Python pre-installed in it, the version might be out-of-date. So, it is always a good idea to install the most current version.

PYTHON STATEMENTS

- Instructions that a Python interpreter can execute are called statements.
- For example, a = 1 is an assignment statement. if statement, for statement, while statement, etc. are other kinds of statements which will be discussed later

MULTI-LINE STATEMENT

- In Python, the end of a statement is marked by a newline character. But we can make a statement extend over multiple lines with the line continuation character (\).

PYTHON INDENTATION

- Most of the programming languages like C, C++, and Java use braces { } to define a block of code. Python, however, uses indentation. A code block (body of a function, loop, etc.) starts with indentation and ends with the first unindented line. The amount of indentation is up to you, but it must be consistent throughout that block.

COMMENTS IN PYTHON

- Comments are very important while writing a program. They describe what is going on inside a program, so that a person looking at the source code does not have a hard time figuring it out. You might forget the key details of the program you just wrote in a month's time. So taking the time to explain these concepts in the form of comments is always fruitful.
- In Python, we use the hash (#) symbol to start writing a comment. It extends up to the newline character. Comments are for programmers to better understand a program. Python Interpreter ignores comments.

PYTHON VARIABLES

- 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 which can be changed later in the program. For
- example,number = 10
- Here, we have created a variable named number. 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.

PYTHON DATA TYPES

- Every value in Python has a datatype. Since everything is an object in Python programming, data types are actually classes and variables are instance (object) of these classes.
- There are various data types in Python. They are follows

NUMBER VARIABLES

- Integers, floating point numbers and complex numbers fall under Python numbers category. They are defined as int, float and complex classes in Python. We can use the type() function to know which class a variable or a value belongs to.
- Similarly, the isinstance() function is used to check if an object belongs to a particular class.

EXAMPLE PROGRAM FOR NUMBER VARIABLES

- a = 5
- print(a,"is of type",type(a))
- a = 2.0
- print(a,"is of type",type(a))
- a = 1+2j
- Print(a,"is complex number?",isinstance(1+2j,complex))

THANK YOU