**Python workshop**

Assinment-2

#What are the datatypes in python?Explain.

Numbers

Number stores numeric values. Python creates Number objects when a number is assigned to a variable.

Example: a=3,b=5

Python supports 4 types of numeric data.

1. int (10, 2, 29, etc.)
2. long (908090800L, -0x1929292L, etc.)
3. float (1.9, 9.902, 15.2, etc.)
4. complex (2.14j, 2.0 + 2.3j, etc.)

String

The string can be defined as the sequence of characters represented in the quotation marks. In python, we can use single, double, or triple quotes to define a string.

Example:

1. str1 = 'hello world' #string str1
2. str2 = ' how are you' #string str2

List

Lists are similar to arrays in C. However; the list can contain data of different types. The items stored in the list are separated with a comma (,) and enclosed within square brackets [].

Tuple

A tuple is similar to the list in many ways. Like lists, tuples also contain the collection of the items of different data types. The items of the tuple are separated with a comma (,) and enclosed in parentheses ().

Dictionary

Dictionary is an ordered set of a key-value pair of items. It is like an associative array or a hash table where each key stores a specific value. Key can hold any primitive data type whereas value is an arbitrary Python object.

#Briefly explain the history of python?

**Python** is an object-oriented, multi-paradigm and a structured programming language. It has an uncomplicated syntax and its uncluttered visuals make it highly readable. Python programming language was instigated by Guido Van Rossum in the year 1989. The ABC programming language was the biggest role-playing instrument in the design and development of Python programming language. The introduction of Python so happened that Van Rossum used to work with CWI in the early 1980s for implementing the ABC programming language. In the late 1980s, while working on AMOEBA, a new distributed operating system, he started searching for a scripting language with a similar syntax as of ABC along with the Amoeba system calls access. This idea made Van Rossum himself start with the design of a new & simple scripting language to overcome the imperfections of ABC programming language. The whole project of coming up with a new script started in the late 1980s and soon in the year 1991, the first version was of the new programming language was released. Initially it was Modula-3 with a module system, but later on, it was named as Python. Van Rossum was a big fan of a popular BBC comedy tv show which used to air in the 1970s called as Monty Python’s Fly Circus. So inspired by the name who he was a big fan of, Rossum named his programming project as ‘Python’.

#**Explain the operators in python**?

Python divides the operators in the following groups:

* Arithmetic operators
* Assignment operators
* relational operators
* Logical operators
* Identity operators
* Membership operators
* Bitwise operators

## Arithmetic Operators: +, - , / , \* , % , // , \*\*.

Assinment Operators: = , += , -= , /= , \*= , %= , \*\* , //.

Relational Operators: < , > ,<= , >= , == , !=.

Logical Operators: and , or , not.

Identify Operators: is , is not.

Membership Operators: in , in out.

Bitwise Operators: & , | , ^ , ~ , << , >>.

#Explain Features of python?

-Easy to code

-Free and open source

-object-oriented language

-GUI programming Support

-High-level language

-Extensible feature

-Python is portable language

-python is integrated language

-Interpreted language

-Large standard library

-dynamically typed language

#**Justify why python is interative interpreted language?**

Unlike c/c++ etc, python is an interpreted object-oriented programming language . unlike c language , which is a compiled programming language . The compilers translated the whole code in one-go rather than line-by-line, all the errors are listed during compilation only.