Assignment-II

1. What are the data types in python? Explain

ANS

Numbers:

It stores numeric values. Number objects are created when you assign a value to them.

Strings:

These are identified in python as a contiguous set of characters represented in quotation marks. Python allows either pair of single or double quotes.

Lists:

These are most versatile of python's compound datatypes. A list contains items seperated by commas and enclosed within square brackets.

Tuples:

Tuple is another sequence data type that is similar to list. Tuples are enclosed with parenthesis.

Dictionary:

They work like associative arrays or hashes found in perl & consist of keyvalue pairs. 'Curly Braces'

2. Briefly explain history of python?

→ Python laid its foundation in late 1980s.

→ implementation of python was started in Dec 1989 by Guido Van Rossum at CWI in Netherland.

→ In Feb 1991. Rossum published the code to alt.source.

→ In 1994 Python 1.0 was released with new features

→ Dec 3, 2008 Python 3.0 was released.

3. Explain operators in python.

→ Arithmetic Operators:

These are used to perform mathematical operations like add, sub, mul, & division.

operator: +, -, *, /, //, %, **

→ Relational Operator

It compares values. It either returns True or False according to condition.

Operators: >, <, ==, !=, >=, <=

→ Logical Operators:

Performs Logical AND, Logical OR & Logical NOT operations.

Operator: and, or, not

→ Bitwise operators

It acts on bits & performs bit by bit operation

operators: &, |, ~, ^, >>, <<

→ Assignment Operators

used to assign values to variables

operators: = += -= *= /= %=
//= **= &= |= ^= >>= <<=

→ Special Operators

Identity operators

used to check if two values are located on same part of memory

is - True if operands are identical
is not - " not identical

Membership operators

used to test whether a value or variable is in a sequence

in - True if value is found in sequence
not in - " not found "

4. Explain features of python.

ANS

→ Easy to learn & use: python is easy to learn & use. It is developer friendly & high level programming lang.

→ Expressive lang: It is more expressive means that it is more understandable & readable

→ Interpreted lang: interpreter executes the code line by line at a time. This makes debugging easy.

→ Cross platform lang: It can run on different platforms such as Windows, Linux etc.

→ Free & open source: It is freely available at offical web address. The source code is also available.

→ Object Oriented :- supports OOP & concepts of classes & objects came into existence

→ GUI programming support:- GUI can be developed using python

→ Integrated :- It can be easily integrated with lang's like C, C++

→ Large Standard library:- Python has large & broad library & provides rich set of module & functions for rapid application development.

5. Justify why python is interactive interpreted language?

→ Interpreted because each time a program is run the interpreter checks through the code for errors & the interprets instructions into machine readable byte code.

→ Interactive - you can actually sit at a Python prompt & interact with interpreter directly to write your programs.