Python Workshop

Assignment - 2

* What are the datatypes in python? Explain

1. **Integers:** Positive or negative whole numbers (without a fractional part) are the integer datatypes in python

Float :- Any real numbers with a floating point representation in which a fractional component is denoted by a decimal symbol or scientific notation.

Complex numbers :- A number with a real and imaginary component represented as x+yj, x and y are floats and j is -1 (square root of -1 called an 'imaginary numbers)

Boolean :- Data with one of two built-in values True or False. Notice that 'T' and 'F' are capital. true and false are not valid booleans and python will throw an errors for them

String :- A string value is a collection of one or more characters put in single, double or triple quotes

list - A list object is an ordered collection of one or more data items, not necessarily of the same type, put in square brackets.

Tuple : A tuple object is an ordered collection of one or more data items, not necessarily of the same type put in parentheses

* Briefly Explain the history of python?

(A) python was created by Guido Van Rossum in 1980 to 1990, He was a member of the National Research Institute of Mathematics and computer science. initially it was designed as a response to the ABC programming language that was also foregrounded in the Netherlands. Among the main features of python compared to the ABC language was that python had exception handling and was targeted for the Amoeba operating system the name python is named from the British Tv show Monty Python In addition to exception handling, python included classes, lists and strings.

* Explain the operators in python?

(A) Operators in python are
- Arithmetic operator
- Relational operator
- Assignment operator
- Logical operator
- Membership operator
- Identity operator
- Bitwise operator

* Arithmetic operators are Addition, subtraction, multiplication Division, Floordivision, modulus, Exponentiation

* Relational operator are <, >, <=, >=, ==, !=

* Assignment operators are =, +=, -=, /=, *=, %=, **=, //=

* Logical operators are and, or, not
* Membership operators are in, not in
* Identity operators are is, is not
* Bitwise operators are Binary AND(&), Binary OR(|), Binary XOR(^), ~, <<, >>

* Explain Features of python?

(A) * 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
* ~~interpr~~ interpreted language
* large standard library
* Dynamically Typed language

* justify why python is interactive interpreted language?

(A) Unlike C/C++ etc, python is an interpreted object-oriented programming language. Unlike C language, which is a compiled programming language. The compiler translates the whole code in one-go rather than line-by-line. This is the reason why in C language, all the errors are listed during compilation only.