

Python Programming

Assignment - 2

① what are the datatypes in python? Explain

(a) Integer: positive or negative whole number (without a fractional part) are the integer datatypes

(b) Float: Any real number with a floating point representation in which a fractional component is denoted

(c) complex number: A number with real and imaginary component represented as $x+yi$, x & y

(d) Boolean: Data with one of built in values True or false. Notice that T or F.

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

(f) list: A list object is an ordered collection of one or more data items not necessarily of same type.

(g) Tuple: A tuple object is an ordered collection of one or more data items not necessarily of same type put in parenthesis

② Briefly explain the history of python
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. It is as a response to the ABC programming language that was also foregrounded in netherlands. Among the main features of python compared to ABC language was that python had exception handling and was targetted for the Amoeba OS.

③ Explain the operators in python

- Arithmetic operator : Addition, Subtraction, Multiplication, Division, Modulus, Floor division
- Relational operator : $<$, $>$, $<=$, $>=$, $=$, $!=$
- Assignment operator : $=$, $+=$, $-=$, $/=$, $*=$, $//=$
- Logical operator : and, or, not
- Membership operator : in, not in
- Identity operator : is, is not
- Bitwise operator : Binary AND ($\&$), Binary OR ($|$), Binary XOR (\wedge), \sim , $<<$, $>>$

④ Explain the features of python

- Easy to code
- Free & open source
- Object oriented language
- GUI programming support
- High level language
- Extensible Feature
- Portable language
- Integrated language
- Interpreted language
- Large standard library

⑤ Justify why python is interactive interpreted language

Unlike C/C++ etc, python is an interpreted language & also an object oriented language. Unlike C language which is 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.