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Assignment

1) What are the data type in python? Explain

Ans:- Data types are the classification or categorization of data items.

Python has the following standard or built-in data type:

Numeric :-

A Numeric value is any representation of data which has a numeric value. Python identifies three types of numbers.

→ Integer:-
positive or negative whole numbers

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

→ Complex number:-
A number with a real and imaginary component represented as x+yj. x and y are floats and j is -1

Boolean :-

→ Data with one of two built-in value (True) or (False). Only 'T' and 'F' are capital or the compiler will thrown an error.

Sequence Type :-

→ **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 put in square brackets.

→ **Typ Tuple :-**
A tuple object is an ordered collection of one or more data items, not necessarily of the same type.

Dictonary :-

A dictonary object is an unordered collection of data in a key : value pair form.
A collection of such pairs is enclosed in curly bracket

2 Briefly explain history of python.

Ans The programming language Python was Conceived in the late 1980's, and its implementation was started in December 1989 by Guido Van Rossum at CWI in the Netherlands as a successor to ABC capable of exception handling and interfacing with the with the Amoeba operating systems.

Python 2.0 was released on October 16, 2000 with major new features, including a Cycle-detecting garbage Collector for memory mangement and support for Unicode.

Python 3.0, a major, backwards-incompatible release, was released on December 3, 2008 after a long period of testing. Many of its major features have also been backported to the backward-Compatible.

3. Explain all the Operators in python -

Ans Python Operators

1) Arithmetic Operators:-

Arithmetic Operators are used to perform mathematical Operations like

[+, Addition], [-, subtraction], Multiplication (*) Division (/), Floor Division (//), Modulus (%), Power (**)

ii) Relational Operators:-

Relational operators compare the values. It either returns True or False according to condition.

Greater than (>), Less than (<), Equal to (==) Not equal to (!=), Greater than or equal to (>=), Less than or equal to (<=)

iii) Logical operators:-

Logical operators perform.

→ Logical AND (and)
→ Logical OR (or)
→ Logical NOT (not)

iv) Bitwise Operators:-

Bitwise operators acts on bits and performs bit by bit operation.

→ Bitwise AND (&)
→ Bitwise OR (|)
→ Bitwise NOT (~)
→ Bitwise XOR (x^y)
→ Bitwise right shift (>>)
→ Bitwise left shift (<<)

v) Assignment operators:-

Assignment operators are used to assign value to variable.

=, +=, -=, *=, /=, %=, //=

→ (=) Asign values
→ Add AND (+=)
→ Subtract AND (-=)
→ Multiply AND (*=)
→ Divide AND (/=)
→ Modulus AND (%=)

→ Divide (floor) (//=)
→ Exponent AND (**=)
→ performs Bitwise AND (&=)
→ Bitwise OR (|=)
→ Bitwise XOR (^=)
→ Bitwise Right shift (>>=)
→ Bitwise left shift (<<=)

vi) Special Operators :-

There are special type of operator like :-

i) Identify Operators :-

'is' and 'is not' are the identify operators both are used to check if two values are located on the same part of the memory.

is → True if the operands are identical
is not → True if the operands are not identical

ii) Membership Operators :-

in → True if value is found in the sequence
not in → True if value is not found in the sequence.

A. Explain the feature of Python

Ans Python is a dynamic, high level, free open source and interpreted programming language. It supports object oriented as well as procedural oriented programming.

Features in python.

→ Easy to code.
→ ₹
→ Free and Open source
→ Object-oriented language
→ Gui programming support
→ High level language
→ Extensive feature
→ Python is portable language
→ python is integrated language
→ Interpreted language
→ Large standard library
→ Dynamically Typed language

5 Justify why python is Interactive, interpreted language

Ans Python is an Interpreted language because python code is executed line by line at a time. there is no need to compile python code this makes it easier to debug. The source code of python is converted into an Immediate form called byte code.