SPARK
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Assignment-2

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1. what are the datatypes in python? Explain

A) The data types in python are:

i. int - integer datatype
ii. float - floating datatype
iii. str - string datatype
iv. complex - complex datatype
v. BOOl - BOOlean datatype

2. Briefly Explain history of python

A) python is a high level programming language. it was intially designed by guido van rossumin in 1991 & developed by python software foundation. it was developed for emphasis on code readability. its syntax allows programmers to express concepts in fewer lines of code.

3. Explain all the operators in python?

(i) Arithmetic operators
(ii) Assignment operators
(iii) comparision operators
(iv) Logical operators
(v) Bitwise operators
(vi) Identity operators
(vii) membership operators

i) Arithmetic operators:

Arithmetic operators are used to perform mathematical operations like addition, subtraction and multiplication and division

Operator	Description	Syntax
+	Addition	x+y
-	Subtraction	x-y
*	multiplication	x*y
/	division	x/y
//	Division (floor)	x//y
%	modulus	x%y
**	power	x**y

2) Assignment operators

Assignment operators are used in python to assign values to variables

Eg: a = 5

a += 5

3) comparison operators:

Python comparision operators:

These operators compare the values on either sites of them and decide the relation among them, they are also called relational operators if the values of two operands are equal, then the condition becomes true

Eg: >, <, >=, <=, ==, !=

4) Logical operators:

Logical operators in python are used for conditional statements are true or false. Logical operators in python are AND, OR and NOT

Eg:

and - &

or - |

NOT - ~

5) Bitwise number operator

Bitwise operators are used to perform Bitwise calculations on integers. The integers are first converted into Binary and then operations are performed on bit by bit. hence the name is Bitwise operators. Then the result is returned in decimal format.

1. Bitwise OR (|) -
2. Bitwise AND (&) -
3. Bitwise XOR (^) -
4. Bitwise complement (~) -
5. shift operators

6) Identity operator

The identity operators are used to determine whether a value is of a certain class or type

Eg: Type(3) - int because 3 is integer type

7) membership operator

membership operators are used to validate the membership of a value. It test for membership in a sequence, such as strings, lists, or tuples.

Eg: 'in' operator

4. Explain features of python.

A. 1. Simple
2. Easy to learn
3. Free and open source
4. High - level language
5. Python is a Beginner's language
6. Portable
7. Interactive
8. Interpreted
9. Object oriented
10. Extensible
11. Embeddable
12. Extensive libraries
13. Data Bases
14. GUI programming
15. Scalable.

5. Justify why python is interactive interpreted language.

A) Python is called an interpreted language because it goes through an interpreter which turns code you write into the language understood by computer's processor we can run a code without compiling which is not present as in C-language