1. Explain the features of python?

A) There are many features in phython, some features are:-

1. Easy to code:

Phython is high level programming language. Phython is very easy to learn language as compared to other language like c, c++, javascript etc. It is very easy to code in phython language. Anybody can learn Phython basic in few hours or days. It is developer-friendly language.

2. Object-oriented language:-

One of the key features of Phython is object-oriented programming. Phython supports object oriented language and concepts of classes, objects, encapsulation etc.

3. GUI - Programming support:-

Graphical users interfaces can be made using a module such as PyQt5, PyQt4, wxpython or TK in python.

PyQt5 is the most popular option for creating graphical apps with python.

4. High-level language:-

python is a high-level language. when we write programs in python, we donot need to remember the system architecture, nor do need to manage the memory.

5. PORTABLE:

Phython is a portable language. eg:- if we have python code for windows and if we want to run this code on other platform such as linux, unix and mac then we do not need to change it, we can run this on any platform.

2. What the data types in python? explain.

python has five standard data types.

* numbers
* string
* ~~lists~~ booleans
* Tuple
* Dictionary.

when you are maintaining a data, it should be of particular kind, it may be of particular kind, it may be either a number, string, boolean logic or a defined logical entity.

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NUMBERS:-

Python numbers are divided as inter, float, complex numbers etc.

Integers:-

positive or negative whole numbers without a fractional part.

Float:-

Any real number with a floating point represents in which a fractional component is denoted by a decimal symbol.

COMPLEX:-

A number with a real and imaginary component represted as x+yj. where x & y are floats and j is -1.

STRINGS:-

strings are sequence of characters, for e.g; take on HTML document.

BOOLEANS:-

are either True or False. 'T' and 'F' are capital. small letter t and f are not valid booleans and python will throw an error for them.

TUPLE:

Tuples are defined by parenthesis ( ) tuples are fixed in size once they are assigned. In python the fixed size is considered immutable as compared to a list that is dynamic and mutable. Tuple makes your code safer if you write to protect data that does not need to be changed.

DICTIONARY:

Dictionary are created by using braces ({ }) with pairs seperated by commas and the key values associated with a colon (:). In dictionaries the key must be unique, Dictionaries in python are lists of key: value pairs. This is a very powerful data datatype to hold a lot of related information through keys.

3. Breifly explain history of Python?

Python is a widely use great general-purpose high level programming language. It has an uncomplicated syntax and highly readable.

Python programming language was invented by Guido van Rossum in the year 1989. The ABC programming language was the biggest role-playing instrument in the design and development of python programming language.

The introduction of python so happened that van Rossum used to work with CWI (Centrum Wiskunde & Informatica) in the early 1980's for implementing the ABC programming language. In the late 1980's, while working on AMOEBA, a new distributed operating system, he started searching for a scripting language with a similar syntax as of ABC along with the Amoeba system calls access. This idea made van Rossum himself start with the design of a new & simple scripting language to overcome the imperfections of ABC programming language. The whole prosect of coming up with a new script started in the late 1980's and soon in the year 1991.

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4. explain all the operators in python:

operators are used to perform operations on variables and values.

Python divides the operators in the following groups:

* Arithmetic operators.
* Assignment operators.
* comparison operators.
* Logical operators.
* Identity operators.
* Membership operators.
* Bitwise operators.

ARITHMETIC OPERATORS:

OPERATOR	NAME	EXAMPLE
+	Addition	x + y
-	subtraction	x - y
*	Multiplication	x * y
/	Division	x / y
%	Modulus	x % y
**	exponentiation	x ** y
//	Floor division	x // y

ASSIGNMENT OPERATORS:

OPERATOR	EXAMPLE	Same As
=	x = 5	x = 5
+=	x += 3	x = x + 3
-=	x -= 3	x = x - 3
*=	x *= 3	x = x * 3
/=	x /= 3	x = x / 3
%=	x %= 3	x = x % 3
//=	x //= 3	x = x // 3
**=	x **= 3	x = x ** 3
&=	x &= 3	x = x & 3
|=	x |= 3	x = x | 3
^=	x ^= 3	x = x ^ 3
>>=	x >>= 3	x = x >> 3
<<=	x <<= 3	x = x << 3

COMPARISON OPERATORS:-

OPERATOR	NAME	EXAMPLE
==	Equal	x == y
!=	not equal	x != y
>	Greater than	x > y
<	less than	x < y
>=	Greater than or equal to	x >= y
<=	less than or equal to	x <= y

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LOGICAL OPERATORS:

OPERATOR	DESCRIPTION	EXAMPLE
and	Returns true if both statements are true	x < 5 and x < 10
or	Returns true if one of the statements is true	x < 5 or x < 4
Not	Reverse the result, returns False if the result is true.	not (x < 5 and x < 10).

IDENTIFY OPERATORS:

OPERATOR	DESCRIPTION	EXAMPLE
is	Return true if both variables are the same object.	x is y
is not	Returns true if both variables are not the same object	x is not y

MEMBERSHIP OPERATORS:-

OPERATOR	DESCRIPTION	EXAMPLE
in	Returns true if a sequence with the specified value is present in the object	x in y
not in	Returns true if a sequence with the specified value is not present in	x not in y

BITWISE OPERATORS:-

operator	Name	Description
&	AND	sets each bit to 1 if both bits are 1
|	OR	sets each bit to 1 if one of two bits is 1
^	XOR	sets each bit to 1 if only one of two bits is 1
~	NOT	Inverts all the bits.
<<	zero fill left shift	shift left by pushing zeros in from the right and let the leftmost bits fall off
>>	signed right shift	shift right by pushing copies of the leftmost bit in from the left, and the rightmost bits fall off.

5. Justify why Python is interactive interpreted language.

Python is an interpreted object-oriented programming language. By interPreted it is meant that each time a program is run the interpreter checks time a program through the code for errors and then interprets the instructions into machine-readable by recode.

Python is interactive when a Python statement is entered, and is followed by the return key, if appropriate, the result will be printed on the next screen, immediately, in the next line. In interactive mode of operation, Python is used in a similar way as the unit command line or the

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terminal.

Interactive Python is very much helpful for the debugging purpose. It simply returns the prompt or the corresponding output of the statement if appropriate and returns error to incorrect statements.