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i] what are the data types in Python? explain the data types defined in the python are ?

1. Numbers
2. string
3. List
4. Tuple
5. Dictionary

1) Numbers :- Number stores numeric value

Python supports 4 types of numeric data

1. int (signed integers like 10, 2, 29 etc)
2. long (long integer used for a higher range of values like 9080908OOL etc
3. float (It is used to store floating point numbers like 1.9, 9002 etc

4. complex (complex numbers like 2+14j)

2) String : The string can be defined as the Sequence of characters Represented in the quotation marks. In python we use single, double or triple quotes to define a string

Eg: "Hello world"

3) List : List are similar to arrays in c. However, the List contain data of different types. the items stored in the List are Separated with a comma and enclosed with in the square brackets[].

we can use slice [:] operators to access the data of the List.

eg t = (i, "hi", "phython 2]
print (L L3i]);

olp [2]

4 Tuple :- A tuple is similar to the list in many ways like, Tuple also contain the collection of the items of different data types, the items of tuple are seperated with a comma(,) and enclosed in the parentheris()

Eg:- t = ("hi", python", 2)
Print (t [1:]);

olp : ('Python', 2)

Dictionary :- Dictionary is an ordered set of a key-value Pair of items. It is like an associative array. key can hold any Primitive data type whereas value is an Orbitary python object.

Eg:- d = { 1: "jimmy", 2 : 'Alex', 3. 'John' };

print ("1 st name is "+d [1]);

olp 1st name is jimmy

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2 Briefly Explain history of Python?

Python is a widely used, general-purpose high-level programming language. It was initially designed by Gui dovan Rossum in 1991 and developed by Python software foundation. It was mainly and its syntax allows progammers to express concept in fewer lines of code.

In the late 1980's history was about to written it was that time when working on Python started soon after that Guido van Rossum began doing its application based doing its application based work in dec of 1989 by at centrumwißkunde and Informatica (CWI) which is situated in Netherland. It was started first as hobby project because he was looking for an interesting project because he was looking for an to keep him occupied during christmas.

The programming language which python is said to have succeeded is ABC Programming language, which had the interfacing with the amoeba operating sly and had the feature of excpxion handling he had already helped to create ABC earlier in his career and he had seen some issues with ABC but liked most of the features. After that what he did as really very clever. he had taken the syntax of ABC and some of its good features it came with a lot of complaint too, so he fixed those issues completely and had created a good scripting language which had removed all the flaws. the inspiration for the name came from BBC's TV show - monty python flying circus as he was a big fan of the TV shows and also he wanted a short-unique and slightly mysterious name for his invention and hence he name it python he was the Benavolent dictator for life (BDFL) until he steeped down from the position as the leader on 12th july 2018 for quite some time he used to work for Google but currently he is working at DropBox.

The language was finally Released in 1991 when it

③

was Released it used a lot fewer
codes to express the concepts when we compare
it with java, c &c++. It design philosophy was quite
good too. Its main objective is to provide code read
ability and advanced developer productivity when
it was Released it had more than enough capability
to provide classes with inheritance general core data
types Exeption handling and functions

③ Explain the operations in Python ?

(i) Arithmetic operators:-

These are used to perform arithmetic operations b/w
two operands It includes.
addition(+), subtraction (-), multiplication(*),division(/)
Remainder(%), floor division(//) and exponent (**)

(ii) comparison operator.

These are used to compare the value of the two
operands and Return boolean true or false accordingly
The comparison operators are:
==, !=, <=, >=, >, <

iii) Assignment operators :
these are used to assign the value of the right
Expression to the left operand.
eg Of Assignment operators:
=, +=, -=, *=, %=, **=, //=

iv) Bitwise operators:
the Bitwise operators perform bit by bit operation
on the values of two operands.
④

*Binary and ($) *Binary(xor)(^)
*left shift (<<) *Binaryor(i) *Negation *) Right shift (>>)

v) Logical operators:-

These are used to primarily in the expression
evaluation to make a decision Python supports and, or
not logical operators.

vi) Membership operators:-

These are used to check the membership of value
inside a Python. If the value is present in data
structure then the Resulting value is true otherwise it
returns false
* In and not in membership operators.

vii) Identity operators:-

→ is - It is evaluated to be true if the reference
present at bothside point to the same object

→ is not - It is evaluated to be true if the reference
present at both side do not point to the same
object.

④ Explain the features of Python ?

(1) Easy to learn and use.
Python is easy to learn and use it is developer
friendly and high level programming language.

(2) Expressive language.
It means that is more understandable and
Readable.

(3) Interpreted language.
Interpreter executes the code line by   ⑤

at a time. this makes debugging 3218103302001 (6)
easy and thus suitable for beginners

4) cross-platform language

It can run equally on different platforms such
as window, linux, unix, etc so we can say python
is a portable language.

5) free and open source

It is freely available at official web address
source-code is also available It is open source

6) object-oriented language.

It supports objectta oriented language and
concepts of classes and object come in to
existence.

7) extensible

It Implies that other languages such as c/c++
can be used to compile the code and thus it
can be used further in our python code.

8) Large standard library

Python has large and broad library and provide
rich set of module and functions for Rapid
application development.

9) GUI programming support
Graphical user interfaces can be developed
using Python.

5] Justify why python is interactive interpreted language?

Python is an interacted interpreted language because.

unlike c/c++ etc, python is an interpreted object oriented programming language By each time a program interpreted it is meant that the code is run the interpreter checks through the instructions for errors and then interprets the into machine Readable byte code.

we can easily integrated Python with other langua -ges like c, c++ etc.

there is no need to compile python code this makes it easier to debug our code.

the source code of python is converted in to an immediate form called bytecode.