Enrollment:- 210403010O573 sub:- Python Programming

DIV:- E

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Assignment :- 1.

Q. 1. what is python ?

A. Python is a high-level object-oriented programming language.

⟹ Python was developed in the early 1990's by guido van Rossum.

⟹ It is a general-purpose programming language that can be used for programming, system scripting, mathematics, web development & software development unlike other languages like HTML & Java.

Q. 2. Explain features of python.

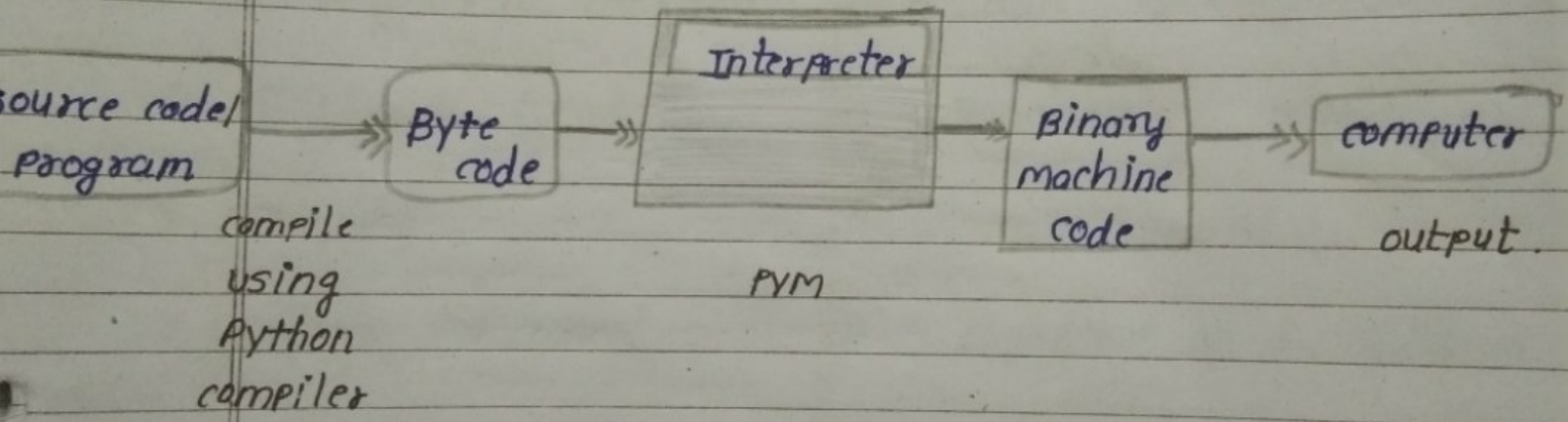
A.
- simple and easy to learn.
- freeware & open source.
- platform independent.
- Rich library.
- Portable
- Embedded
- Extensible
- Interpreted (line by line).
- GUI programming support.
- Dynamic memory Allocation.

Q. 3. Explain PVM.

A.

⟹ Python virtual machine (PVM) : is a program which provides programming environment.

⟹ The role of PVM is to convert the byte code instruction into machine code so the computer can execute those machine code instruction and display the output.



Q. 4. Comparison between C and python.

A.

C	Python
⊙ structured programming	⊙ interpreted language.
⊙ High speed	⊙ slow speed
⊙ Less library function	⊙ Rich library.
⊙ memory management done by programmer	⊙ Automatic garbage collection

⊙ Pointers available	⊙ pointers not available
⊙ function Renaming not possible	⊙ function Renaming can be done.
⊙ Harder syntax	⊙ Easy syntax
⊙ Archiecture language	⊙ General purpose language.

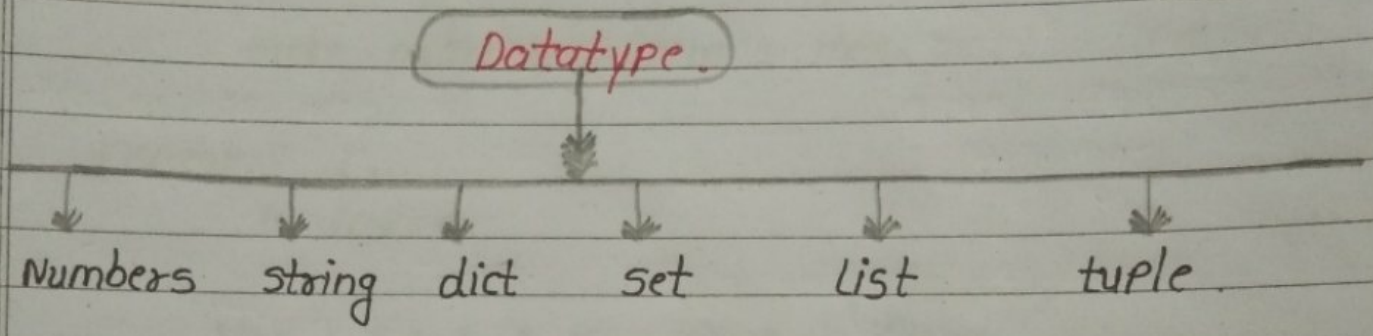
Q.5. Comparison between Java and python.

Java	Python
⊙ statically typed	⊙ Dynamically typed
⊙ compiled	⊙ Interpreted
⊙ platform independent	⊙ Dependent on a platform
⊙ larger legacy system	⊙ fewer legacy problems
⊙ Limited string Related function	⊙ Losts of string Related functions.
⊙ Learning curve is more complex.	⊙ Easier to learn and use.
⊙ usually faster than python	⊙ Fast but usually slower than Java.
⊙ verbose	⊙ concise.

Q. 6. List out datatypes in python explain any two datatypes with example.

A.

Datatype :- Datatype Represents the different kinds of values that we stored on the variable.



* List :-

List is a data structure which is also called collecation of items, in which we can store anything like string, float, integer.

syntax :- list-name = [item 1, item 2, ... item n]
(variable)

* EXAMPLE :-

```
# POP
list 1 = [10, 'Anjali', 10.6, 'Jay', 10]
list 1 . POP (2)
print (list 1)
```

output :- [10, 'Anjali', 'Jay', 10]

tuple :-

Tuple is a data structure which is also called collecation of items, in which we can storing like string, float, integer.

Syntax :-

tuple-name = (item 1, item 2, ... item n).

EXAMPLE :-

```
# index

Var = (1, 2, 3, 4, True, "Anjali")
A = var.index ("Anjali")
Print (A)

# copy

Var = (1, 2, 3, 4, True, "Anjali")
var2 = var
print (var 2)
```

output :- (1, 2, 3, 4, True, "Anjali").

Q. 7. what is the difference between list and tuple?

A.

List	tuple.
⊙ Mutable	⊙ A tuple is immutable.
⊙ dynamic	⊙ Tuples are fixed size in nature.
⊙ Homogenous	⊙ Heterogeneous.
⊙ Square Brackets []	⊙ Round paranthesis ()
⊙ Slow	⊙ Fast
⊙ more methods	⊙ less methods

Q. 8. Explain variable in python with example.

A. A python variable is a reserved memory location to store value.

Every value in python has a datatype.

Variables can be declared by any name or even alphabets like a, aa, abc, etc.

EXAMPLE :-

* Ex;

```
x = 5
y = "Anjali"
print (x)
Print (y)
```

output

```
5
Anjali
```

```
x = 4
x = "Anjali"
  Print (x)
```

output
Anjali

Q. 9. List out the Rules for identifiers.

A.

- Allowed chameter :
  - alphabet (cuppercase or lowercase)
  - digits (0-9)
  - undercase (_)
- should not be start with digits
- case sensitive
- we can't use Reserved word (Keywords).

Q. 10. Explain Keyword in python.

A. Keywords are the Reserved words whose meaning already define in the python interpretor.

* EXAMPLE :-

```
import keyword
keyword.kwlist
```

Output

```
['false', 'none', 'True', 'and', 'as', 'assert',
'async', 'await', 'break', 'class', 'continue',
'def', 'del', 'elif', 'else', 'except', 'finally',
'for', 'from', 'global', 'if', 'import', 'in',
'is', 'lambda', 'nonlocal', 'not', 'or', 'pass',
'raise', 'return', 'try', 'while', 'with', 'yield']
```

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Q. 11 Explain type conversion with example.

A. The process of converting a python data type into another data type is known as type conversion.

⇒ There are mainly two types of type conversion methods in python, namely,

- implict type conversion
- explicit type conversion

* implict type conversion :-

python automatically convert one data type to another. This is known as implicit type conversion.

* EXAMPLE :- converting integer to float

```
integer_number = 123
float_number = 1.23

new_number = integer_number + float_number

print ("value :", new_number)
print ("Data type :", type (new_number)).
```

Output

```
value : 124.23
Datatype : <class 'float'>
```

* Explicit type conversion :-

users convert the data type of an object to required data type.

Example :- Addition of string and integer using Explicit conversion.

```
num_string = '12'
num_integer = 23

print (" Data type of num_string before Type casting :", type (num_string))
# explicit type c...
num_string = int (num_string)
print ("Data type of num_string after type casting :"
type (num_string))
```

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```
num_sum = num_integer + num_string

print ("sum:", num_sum)
Print ("Data type of num_sum:", type (num_sum))
```

output

```
Data type of num_string before Type casting:
<class 'str'>

Data type of num_string after type casting:
<class 'int'>

Sum : 35

Data type of num_sum : <class 'int'>
```

xxx