1. What is a python?

* Python is a one of programming language.
* This language was developed by guido van rossum
* in the year 1989 and released in the market in the year 1991
* **Python** is a [high-level](https://en.wikipedia.org/wiki/High-level_programming_language) [programming language](https://en.wikipedia.org/wiki/General-purpose_programming_language)
* Actually Python is available in 3 versions
* Presently 1st and 2nd versions are not using in market having less features with more disadvantages that's why to overcome these problems people in market presently we are using Python 3rd Version.
* Latest version of python 3 is 3.12.6.

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1. Is python is case sensitive or case insensitive programing language?

* python is a case sensitive programming language.
* Example: (int(valid) INT(INVALID))
* (int(main) INT(MAIN))

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1. Write a program using all the operators?

* Example 1

k=234

g=56

print(k+g)

290

print(k\*g)

13104

print(k%g)

10

print(k&g)

40

print(k>g)

True

print(k>g)

True

print(k<g)

False

print(k%g)

10

print(g-k)

-178

print(k/g)

4.178571428571429

4. Explain difference between static and dynamic datatypes?

Static datatypes:

* In Static data structure the size of the structure is fixed.
* we can define the semicolon by the end of every datatype statement.
* one variable can use only one time with in the program.
* dynamic datatypes
* Dynamic datatypes means we cannot able to define the datatypes
* Because in python based on the value initialized to the variable
* we cannot define the semicolon by the end of every datatype statement.
* one variable can use more than one time with in the program.
* Every datatype in python can be internally implemented as a class type.

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5,Write a program using indexing and slicing using list, set, tuple, str, dict?

ANS: INDEXING

List

X=(20,5+8j,5.4,True)

Print(x[2])#5.4

Print(x[3]#true

Print(x[-3]#5+8j

Print(x[0]#20

Print(x[-5]#IndexError

Tuple

X=20,3+5j,6.5,True

Print(x[2])#6.5

Print(x[3]#true

Print(x[-3]#3+5j

Print(x[0]#20

Print(x[-5]#IndexError

2. X=(10,3+4j,2.5,True)

Print(x[2])#2.5

Print(x[3]#true

Print(x[-3]#3+4j

Print(x[0]#10

Print(x[-5]#IndexError

String

X=30,4.6,Sai,True

Print(x[2])#Sai

Print(x[3]#true

Print(x[-3]#4.6

Print(x[0]#30

Print(x[-5]#IndexError

->Set and dict does not support indexing and slicing concepet.

6. Write a program using input function using int and str?

ANS-

INT

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h=int(input("Enter the value of h="))

y=int(input("Enter the value of y="))

print("The sum of h+y = ", h+y)

print("The sub of h-y = ", h-y)

print("The mul of h\*y = ", h\*y)

print("The div of h/y = ", h/y)

output

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Enter the value of h= 8

Enter the value of y=3

11

5

24

2.6

STR

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x=str(input("Enter the value of x="))

y=str(input("Enter the value of y="))

print(x\*y)

output

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Enter the value of x=9

Enter the value of y=2

18