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Subject :- python Assignment-1

Branch :- ECF

Section:- ECE-II

## Assignment-1 python

1. List operators in python ? describe specifically about identity and membership operator ?

Ans:- python consists of 7 types of operators they are:-

1. Arithmetic operators
2. Assignment operators
3. Comparison operators
4. Logical operators
5. Membership operators.
6. Identity operators.
7. Bitwise operators.

Identity operators:- It is used to compare the memory location of two objects.

Operators:-  $is \Rightarrow$  Returns true if both objects are same.  
 $isnot \Rightarrow$  Returns true if both objects are not same.

Ex:- 1)  $a = 25$

$b = 25$

$a \text{ is } b$

True.

$a \text{ is not } b.$

False.

2)  $a = 25$

$b = 30$

$a \text{ is not } b$        $a \text{ is } b$

True.              False.

Membership operators:- It is used to test if a sequence is present in a object.

Operators:-  $in \Rightarrow$  It returns true if the object is present in a sequence.  
 $notin \Rightarrow$  It returns true if the object is not present in sequence

Ex:- 1)  $a = [1, 2, 3]$

$b = 5$

$b \text{ in } a$        $b \text{ not in } a$

False      True.

2) 'code' in codevita

True.

2) List and explain any four features of python?

Ans) Python is strongly typed: python is strongly typed because every type conversion in python must be done explicitly. It means a "s" (the string whose value is 's') will remain a string, and never converted to a number if the context requires so.

Python is a Beginner's Language: python is a great language for the beginner-level programmers and supports the development of a wide range of applications from simple text processing to web browsers to games.

Easy to use: The code is compiled into byte code and then executed in a virtual machine. This means that precompiled code is portable b/w platforms. It supports automatic garbage collection.

Open source: There is no need to pay for python software. python can be freely downloaded from [www.python.org](http://www.python.org) website. Its source code can be read, modified and can be used in programs as desired by the programmers.

3) Give short note on python indentation?

Ans) Indentation refers to the spaces & brackets at the beginning of the code line.

Where in other programming languages the indentation in code is for readability only, the indentation in python is very important.

python uses indentation to identify a block of code.

Ex if a > b:

    Print("a is greater than b")

4) What python uses static typing (or) Dynamic? Justify your answer?

Ans) Python uses Dynamic, Python is a Dynamically typing language that means it is not necessary to declare the type of variable while assigning a value to it. For instance, for do not need to declare the data type of object.

Ex:- `a = 5`  
`print(a)`

5) Explain Input and output function?

Ans) Input:- To get input from the user we can use the input function.

Syntax:-

`<variable names> = input(<a string values>)`

Ex:- `k = input("Enter any data")`

Output:- To get output.

Syntax:-

`Print(<expressions>)`

`Print(<expression>, ..., <expressions>)`

`Print(<expressions>, end = " ")`

`Print(f'expression 1 {var 1} f'expression 2 {var 2}')`

`Print('expression { } { } ....'.format(var1, var2, ...))`

Ex:- `i = Grayathur`

`Print(i)`

`Print(i, end = " ")`

6) What are 4 built-in numeric data types in python? Explain

Ans) Numeric data types are:- Integer  
Complex number  
Float.

Integers:- Integers can be of any length, it is only limited by the memory available.

Float:- A floating point number is accurate up to 15 decimal places. Integer and floating points are separated by decimal points.  
1 is an integer, 1.0 is a floating point number.

Complex number:- Complex numbers are returns in the form  $x+yj$ , where  $x$  is a real part and  $y$  is the imaginary part.

Ex:-  $a = 123$        $b = 1.23$        $c = 1+2j$   
          $\text{type}(a)$        $\text{type}(b)$        $\text{type}(c)$   
         int          float      complex.

7) Give an example of `isalnum()` method and `endswith()` method?

Ans) `isalnum()`:- It checks whether the string consists of alpha numeric characters `str.isalnum()`.

Ex:-  $a = \text{"codexta"}$   
          $a.isalnum$   
         True.

`endswith()`:- It returns true if the string ends with specified value, otherwise False.

Syntax:- `string.endswith(value, start, end)`

Ex:-  $a = \text{"Gayatri"}$   
          $a.endswith(i)$   
         True.

9) Write a program to find the given year is leap year (or) not?

Ans) `a = int(input("enter the year"))`

`if a % 4 == 0:`

`Print("the given year is leap year")`

`else:`

`Print("The given year is not leap year")`

10) Write a python program to demonstrate explicit conversion?

Ans) `num-int = 25`

`num-1 = "43"`

`Print(type(num-int))`

`Print(type(num-1))`

`num-res = num-int + int(num-1)`

`Print("the value after conversion is {}".format(num-res))`

`Print(type(num-res))`

output:-

<class 'int'>

<class 'str'>

the value after conversion is 68.

<class 'int'>



11) Write a python program to find maximum of 4 numbers using elif?

Ans:-

```
a = int(input("enter a value"))
b = int(input("enter b value"))
c = int(input("enter c value"))
d = int(input("enter d value"))
if a > b && a > c && a > d:
    Print("a is maximum")
elif b > c && b > d:
    Print("b is maximum")
elif c > d:
    Print("c is maximum")
else:
    Print("d is maximum")
```

12) Difference b/w list & tuple in python.

### List

- 1) List is mutable
- 2) It consumes more memory
- 3) unexpected changes & errors are more likely to occur.
- 4) It is separated by (,) and enclosed with square brackets [ ].

### Tuple

- 1) It is immutable
- 2) It consumes less memory compared to list
- 3) In tuple it is hard to take place.
- 4) It is separated with a comma (,) and enclosed in parantheses ( ).