

ASSIGNMENT – 2 : Intro to Python

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1) What are the pros and cons of using Python?

PROS :

- Python can be *extended to other languages*. We can write some of your code in languages like C++ or C.
- It has an *extensive library*. These contain code for various purposes, so we don't have to write the complete code for that manually.
- *Easy* to learn, understand, and code.
- Reading Python is much *like reading English*.
- *Debugging is easier* as it uses an interpreter.

CONS

- Since Python is interpreted, it often results in *slow execution*.
- Python is dynamically-typed. While this is easy on the programmers during coding, it *raises run-time errors*.
- Excellent server-side language, *not a suitable client-side language*.
- Python is *not very secure*.
- It sometimes is *too simple* a language.

2) Which operator in Python has the highest priority in an expression?

The highest priority is given to the *parenthesis operator* '()', followed by the *exponent operator* '**'.

3) Explain the function of the // operator. What is this operator called?

'//' is the floor division operator. It gives the truncated integer value of the result of true value.

That is, consider 'a' and 'b'. a/b gives the complete float point value of the result while a//b gives only the integer value. These values do not care for the datatype of 'a' and 'b'.

Eg : 3//4=0

3.0//4.0=0.0

3/4=3.0/4.0=0.75

4) Write a program to delete alternate entries in a list

```
n=int(input("Enter number of entries in list\n"))
print("Enter list :\n")
list=[]
for i in range(0,n):
    list.append(input())
print(list)
for i in range(0,n):
    if(i>=n):
        break
```

```

    del list[i]
    n-=1
print("After deleting list is :\n",list)

```

5) Write a program to sort a list using any sorting technique.

Selection Sort

```

n=int(input("Enter number of entries in list\n"))
print("Enter list :")
list=[]
for i in range(0,n):
    list.append(input())
print("List is :\n",list)
for i in range(0,n-1):
    pos=i
    for j in range(i,n):
        if(list[j]<list[pos]):
            pos=j
    if(pos!=i):
        temp=list[i]
        list[i]=list[pos]
        list[pos]=temp
print("List after sorting :\n",list)

```

6) Write a program to generate the following pattern for any n

```

n = int(input("Enter value for n\n"))
k=(2*n)
for i in range(1,k,2):
    for j in range(1,n):
        print(" ",end="")
    for m in range(0,i):
        print("*",end="")
    print()
    n-=1
for i in range(k-2,1,-2):
    n+=1
    for j in range(0,n):
        print(" ",end="")
    for m in range(i,1,-1):
        print("*",end="")
    print()

```