

```
In [1]: minh = ["c", "hhhff", 7, "uytv"]  
        print(minh)  
        ['c', 'hhhff', 7, 'uytv']
```

```
In [2]: print(minh[0])  
        print(minh[2:])  
        print(minh[-1])  
  
c  
[7, 'uytv']  
uytv
```

```
In [3]: print("c" in minh)  
  
True
```

```
In [4]: print("C" in minh)  
  
False
```

```
In [5]: print(minh+["one", 2, "Three"])  
        ['c', 'hhhff', 7, 'uytv', 'one', 2, 'Three']
```

```
In [6]: print(minh)  
        ['c', 'hhhff', 7, 'uytv']
```

```
In [7]: print(minh*3)  
        ['c', 'hhhff', 7, 'uytv', 'c', 'hhhff', 7, 'uytv', 'c', 'hhhff', 7, 'uytv']
```

```
In [8]: m = ["C", "C++", "ajajh"]  
        print(len(m))  
  
3
```

```
In [9]: m.append("Java")
```

```
In [10]: print(m)  
         ['C', 'C++', 'ajajh', 'Java']
```

```
In [11]: m.insert(2, "OS")
```

```
In [12]: print(m)  
         ['C', 'C++', 'OS', 'ajajh', 'Java']
```

```
In [13]: m.remove("ajajh")
```

```
In [14]: print(m)  
         ['C', 'C++', 'OS', 'Java']
```

```
In [15]: print(m[:2])  
         print(m[2:])  
  
         ['C', 'C++']  
         ['OS', 'Java']
```

```
In [16]: print(len(m))  
  
         4
```

```
In [17]: a=[4,3,1,2,3,4,5,6]  
         a.sort()
```

```
In [18]: print(a)  
  
         [1, 2, 3, 3, 4, 4, 5, 6]
```

```
In [19]: a.reverse()  
         print(a)  
  
         [6, 5, 4, 4, 3, 3, 2, 1]
```

```
In [20]: a.pop()
```

```
Out[20]: 1
```

```
In [21]: print(a)  
  
         [6, 5, 4, 4, 3, 3, 2]
```

```
In [22]: a.clear()
```

```
In [23]: print(a)  
  
         []
```

```
In [24]: a=m
```

```
In [25]: print(a)  
  
         ['C', 'C++', 'OS', 'Java']
```

```
In [26]: m.index("OS")
```

```
Out[26]: 2
```

```
In [27]: m.count("C")
```

```
Out[27]: 1
```

```
In [28]: range(10)
```

```
Out[28]: range(0, 10)
```

```
In [29]: list(range(10))
```

```
Out[29]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [30]: print(list(range(2,10)))
```

```
         [2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [31]: print(list(range(16,23)))
```

```
[16, 17, 18, 19, 20, 21, 22]
```

```
In [32]: print(list(range(16,23,3)))
```

```
[16, 19, 22]
```

```
In [33]: a=list(range(4,22))  
print(a[3])
```

```
7
```

```
In [34]: print(a)
```

```
[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21]
```

```
In [35]: for x in a:  
        print(x)
```

```
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21
```

```
In [36]: count = 0  
while count<len(a):  
    print(a[count], end=" ")  
    count = count+1
```

```
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
```

```
In [37]: """  
For Loop  
"""  
for pp in a:  
    print(pp,end=" ")
```

```
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
```

```
In [38]: sum=0  
for p2 in a:  
    sum=sum+pp  
print(sum)
```

```
378
```

```
In [39]: #1+2+3+.....+n
n=int(input("ENter the Last Number"))
sum=0
for x2 in range(1,n+1,1):
    sum=sum+x2
    print(sum,end=" ")
```

ENter the Last Number10  
1 3 6 10 15 21 28 36 45 55

```
In [40]: #2+4+6+.....+n
n=int(input("ENter the Last Number"))
sum=0
for x2 in range(2,n+1,2):
    sum=sum+x2
    print(sum,end=" ")
```

ENter the Last Number20  
2 6 12 20 30 42 56 72 90 110

```
In [41]: #1^2+2^2+3^2+.....+n^2
n=int(input("ENter the Last Number"))
sum=0
for x2 in range(1,n+1,1):
    sum=sum+x2*x2
    print(sum,end=" ")
```

ENter the Last Number6  
1 5 14 30 55 91

```
In [42]: #1*2*3*.....*n
n=int(input("ENter the Last Number"))
sum=1
for x2 in range(1,n+1,1):
    sum=sum*x2
    print(sum,end=" ")
```

ENter the Last Number7  
1 2 6 24 120 720 5040

```
In [43]: '''
*
**
***
****
'''
n=int(input("Enter a number"))
for x in range (n+1):
    print(x*"**")
```

Enter a number5

```
*
**
***
****
*****
```

In [44]:

```
'''
*
***
*****
*****
'''
n=int(input("Enter a number"))
for x in range (1,n+1,2):
    print(x*"")
```

Enter a number7

```
*
***
*****
*****
```

In [45]:

```
'''
*
***
*****
*****
'''
n=int(input("Enter a number"))
for x in range (n+1):
    print((2*x-1)*"")
```

Enter a number8

```
*
***
*****
*****
*****
*****
*****
*****
*****
```

In [46]:

```
'''
*****
*****
****
*
'''
n=int(input("Enter a number"))
l=list(range(1,n+1))
print(l)
l.reverse()
for x in l:
    print((2*x-1)*"")
```

Enter a number7

```
[1, 2, 3, 4, 5, 6, 7]
*****
*****
*****
*****
*****
***
*
```

```
In [47]: '''
          *****
          *****
          ****
          *
          '''
n=int(input("Enter a Number "))
for x in range(n):
    print(" "*x,"*"*(n-x))
```

Enter a Number 8

```
*****
*****
*****
*****
****
***
**
*
```

```
In [48]: import random
guessN=int(input("Number 1 to 5:"))
randomN=random.randint(1,5)
if guessN==randomN:
    print("WON")
else:
    print("Lost",randomN)
```

Number 1 to 5:4

WON

```
In [49]: #random number game
from random import randint
guessN=int(input("Number 1 to 5: "))
randomN=randint(1,5)
if guessN==randomN:
    print("WON")
else:
    print("Lost",randomN)
```

Number 1 to 5: 3

Lost 4

```
In [50]: n=input("Enter a number")
list1=n.split()
sum=0
for mm in list1:
    sum=sum+int(mm)
    print(sum,end=" ")
```

Enter a number1 2 3 4 5 6 7 8 9 10

1 3 6 10 15 21 28 36 45 55

```
In [51]: n=int(input("Enter a Number "))
for x in range(n+1):
    print(" "*x,"*"*(n-x))
```

Enter a Number 5

```
    *
   **
  ***
 ****
*****
```

```
In [52]: text = input("Enter a Line:\t")
nW=1
nL=0
nD=0
text=text.lower()
for x in text:
    if x>='a' and x<='z':
        nL=nL+1
    elif x>='0' and x<='9':
        nD=nD+1
    elif x==' ':
        nW=nW+1

print("Word:", nW)
print("Letter: ",nL)
print("Digit: ",nD)
```

Enter a Line: Md. Minhazul Kabir, 01987847107  
Word: 4  
Letter: 15  
Digit: 11

```
In [53]: #Matrix
mat=[
    [1,2,3],
    [5,6,7],
    [8,334,3],
    [5,6,7]
]
#print(mat)
for a in mat:
    for b in a:
        print(b,end=" ")
    print()
```

```
1 2 3
5 6 7
8 334 3
5 6 7
```

```
In [54]: #Dictionary
student={
    "var1": "Minhazul Kabir",
    "var2": "01987847107",
    "var3": "ASUS",
    "var4": "HP",
}
#print(student)
print(student.get("var100", "Not a valid key"))
#for a in student:
```

Not a valid key

In [55]: *#Tuple Constant list*

```
top=(
    "Minhaz",
    "Kabir",
    "iPhone"
)
#top[0]="1"      error
print(top)
for a in top:
    print(a)
```

```
('Minhaz', 'Kabir', 'iPhone')
Minhaz
Kabir
iPhone
```

In [56]: *#Tuple Constant list first bracket*

```
top=(
    "Minhaz",
    (1,56,"Sagar", 'K', 67),
    "iPhone",
    1987847107,
)
print(top[2:],end="\n\n")
print(top)
```

```
('iPhone', 1987847107)
```

```
('Minhaz', (1, 56, 'Sagar', 'K', 67), 'iPhone', 1987847107)
```