

```
In [1]: def name():
        a=input("Write here something")
        print(a)
        name()
```

Write here something5  
5

```
In [2]: import math
```

```
In [3]: def arit():
        x=input("write here value:")
        y=input("write here value:")
        print(x+y)
        print(x-y)
        print(x*y)
        arit()
```

write here value:3  
write here value:5  
35

```
-----
TypeError                                Traceback (most recent call last)
Input In [3], in <cell line: 7>()
      5 print(x-y)
      6 print(x*y)
----> 7 arit()

Input In [3], in arit()
      3 y=input("write here value:")
      4 print(x+y)
----> 5 print(x-y)
      6 print(x*y)

TypeError: unsupported operand type(s) for -: 'str' and 'str'
```

```
In [ ]: import numpy as np
        a=np.array([1,2,3,4,5])
        print(a)
        print(type(a))
        print(a.shape)
        print(a[0],a[2],a[3])
```

```
In [ ]: import numpy as np
        a=np.array([[1,2,3,4,5],[6,7,8,9,4]])
        print(a)
        print(a.shape)
        print(type(a))
```

```
In [ ]: import numpy as np
        a=np.array([[1,2,3,4,5],[6,7,8,9,5],[1,10,14,30,0]])
        print(a)
        print(a.shape)
        print(type(a))
```

```
In [ ]: #indexing
        print(a[0,3])
        print(a[2,3])
```

```
In [ ]: # since we sue numpy
        ls=([1,2,3,4,5],[6,7,8,9,5],[1,10,14,30,0]])
        print(ls)
        print(ls.shape)
        print(type(ls))
```

```
In [ ]: import numpy as np
        a=np.zeros((5,5))
        print(a)
```

```
In [ ]: import numpy as np
        a=np.full((5,5),10)
        print(a)
```

```
In [ ]: a=np.eye(3)
        print(a)
```

```
In [ ]: a=np.random.random((3,3))
        print(a)
```

```
In [ ]: #2d metrix
        a=np.random.randint(10,200, (2,3))
        print(a)
```

```
In [ ]: a=np.array([[1,2,3],[2,4,5],[4,5,7]])
        b=np.array([[4,2,3],[5,4,5],[0,5,7]])
        print(a+b)
```

```
In [ ]: a=np.array([[1,2,3],[2,4,5],[4,5,7]])
        b=np.array([[4,2,3],[5,4,5],[0,5,7]])
        print(a+b)
        print(a*b)
        print(a-b)
        print(a//b)
```

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

```
In [ ]: print(np.sqrt(a))
```

```
In [ ]: print(a.ndim)
        print(a.shape)
```

```
In [7]: x = int(input())
        y = int(input())
        z = int(input())
        n = int(input())
        output=[]
        for i in range(x+1):
            for j in range(y+1):
                for k in range(z+1):
                    if i+j+k==n:
                        continue
                    else:
                        output.append([i,j,k])

        print(output)

1
2
3
4
[[0, 0, 0], [0, 0, 1], [0, 0, 2], [0, 0, 3], [0, 1, 0], [0, 1, 1], [0, 1, 2], [0, 2, 0], [0, 2, 1], [0, 2, 3],
[1, 0, 0], [1, 0, 1], [1, 0, 2], [1, 1, 0], [1, 1, 1], [1, 1, 3], [1, 2, 0], [1, 2, 2], [1, 2, 3]]
```

```
In [12]: for i in range(x+1):
         for i in range(y+1):
             print([i,j])
```

```
[0, 2]
[1, 2]
[2, 2]
[0, 2]
[1, 2]
[2, 2]
```

```
In [13]: for i in range(2):
         print(i)
```

```
0
1
```

```
In [ ]: # x = int(input())
        # y = int(input())
        # z = int(input())
        # n = int(input())
        # output=[]
        # for i in range(x+1):
        #     for j in range(y+1):
        #         for k in range(z+1):
        #             if i+j+k==n:
        #                 continue
        #             else:
        #                 output.append([i,j,k])

        print(output)
```

```
In [ ]:
```