

Que.1

```
In [1]: a="Sudhanshu"
```

```
In [2]: a
```

```
Out[2]: 'Sudhanshu'
```

```
In [3]: b=[1,2,1,1,2,3,45432,[5,9,8]]
```

```
In [4]: b
```

```
Out[4]: [1, 2, 1, 1, 2, 3, 45432, [5, 9, 8]]
```

```
In [5]: v=45.26
```

```
In [6]: v
```

```
Out[6]: 45.26
```

```
In [7]: s=(2,8,9,6,3,5,9,8,"Sudhanshu")
```

```
In [8]: s
```

```
Out[8]: (2, 8, 9, 6, 3, 5, 9, 8, 'Sudhanshu')
```

```
In [9]: type(s)
```

```
Out[9]: tuple
```

Que.2

```
In [10]: var1=''
```

```
In [12]: type(var1)
```

```
Out[12]: str
```

```
In [13]: var2 = '[ DS , ML , Python]'
```

```
File "C:\Users\sudha\AppData\Local\Temp\ipykernel_4528\4236947624.py", line 1
    var2 = '[ DS , ML , Python]'
            ^
SyntaxError: invalid character '[' (U+2018)
```

```
In [17]: var3 = ["DS","ML","Python"]
```

```
In [18]: type(var3)
```

```
Out[18]: list
```

```
In [19]: type(var4 = 1)
```

```
-----  
TypeError                                Traceback (most recent call last)  
~\AppData\Local\Temp\ipykernel_4528\2548416193.py in <module>  
----> 1 type(var4 = 1)  
  
TypeError: type() takes 1 or 3 arguments
```

```
In [20]: var4 = 1
```

```
In [21]: type(var4)
```

```
Out[21]: int
```

Que.3

1./ is used for division purpose

```
In [22]: a=10
```

```
In [23]: b=5
```

```
In [24]: c=a/b
```

```
In [25]: c
```

```
Out[25]: 2.0
```

2. % is used to get the remainder.

```
In [26]: c=a%b
```

```
In [27]: c
```

```
Out[27]: 0
```

3. // is used to Floor Division

```
In [28]: c= a//b
```

```
In [29]: c
```

```
Out[29]: 2
```

4.** is used for power

```
In [30]: c= a**b
```

```
In [31]: c
```

```
Out[31]: 100000
```

Que .4

```
In [36]: l=[1,3,4,5,6,9,"Sudhanshu",'true','false',55]
```

```
In [39]: x=len(l)
```

```
In [48]: for i in range (x):  
         print(l[i])
```

```
1  
3  
4  
5  
6  
9  
Sudhanshu  
true  
false  
55
```

Que .5

```
In [49]: A = int(input("Enter number A: "))  
        B = int(input("Enter number B: "))  
  
        count = 0  
  
        while A % B == 0:  
            A = A // B  
            count += 1  
  
        if count > 0:  
            print(f"{A} is divisible by {B} and can be divided {count} times.")  
        else:  
            print(f"{A} is not divisible by {B}.")
```

```
Enter number A: 50  
Enter number B: 5  
2 is divisible by 5 and can be divided 2 times.
```

Que.5

```
In [52]: l1 =[1,2,3,6,5,4,9,8,7,11,22,33,99,54,88,99,44,25,63,98,14,25,54,32,60]
```

```
In [55]: x=len(l1)
```

```
In [77]: print("no. divisible by 3 are:")  
  
        for i in range (x):  
            if l1[i] % 3 == 0:  
                print(f"{l1[i]}")
```

no. divisible by 3 are:

3
6
9
33
99
54
99
63
54
60

Que.7

Immutable data types are those whose values cannot be changed after creation. $a = 5$ $b = a$ $a = 10$ Mutable data types are those whose values can be modified after creation.

```
In [80]: list1 = [1, 2, 3]
         list2 = list1
         list1.append(4)
```

```
In [81]: list2
```

```
Out[81]: [1, 2, 3, 4]
```

```
In [ ]:
```