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1 [Function]Perfect number

```
def perfect(num):
    sum=1
    for i in range(2,num):
        if(num%i==0):
            sum = sum +i;
    if(sum==num):
        return True
    else:
        return False

N=int(input("enter the value of N \n"))

for j in range(1,N+1):
    if(perfect(j)):
        print(j," is perfect")
    else:
        print(j," is not perfect")
```

```
enter the value of N
30
1 is perfect
2 is not perfect
3 is not perfect
4 is not perfect
5 is not perfect
6 is perfect
7 is not perfect
8 is not perfect
9 is not perfect
10 is not perfect
11 is not perfect
12 is not perfect
13 is not perfect
14 is not perfect
15 is not perfect
16 is not perfect
17 is not perfect
18 is not perfect
19 is not perfect
20 is not perfect
21 is not perfect
22 is not perfect
23 is not perfect
24 is not perfect
25 is not perfect
26 is not perfect
27 is not perfect
28 is perfect
29 is not perfect
30 is not perfect
```

2 [Function]Even length words identification

```
sent = input("enter the sentence \n")

ls = sent.split()
ls1 = []

for i in ls:
    if(len(i)%2==0):
        ls1.append(i)

print("even lenght words are \n",ls1)
```

```
enter the sentence
MY NAME IS KHAN
even lenght words are
['MY', 'NAME', 'IS', 'KHAN']
```

3. [Function]Square&Cube

```

N=int(input("enter the value of N \n"))
ls = []
for i in range(1,N+1):
    if((i**6) <= N):
        ls.append(i)

print(ls)
print("number of such numbers = ",len(ls))

```

```

enter the value of N
15
[1]
number of such numbers = 1

```

4. [Function]Duplicacy removal

```

ls=[]
n = int(input("enter the number list elements"))
print("enter the list elemnts \n")
for i in range(n):
    ls.append(int(input()))

ls.sort()
print(ls)
c=0
for i in range(n):
    for j in range(i+1,n-1):
        if(ls[j]==ls[i]):
            print("true")
            c=c+1
            break
if(c==0):
    print("false")

```

```

enter the number list elements10
enter the list elemnts

1
2
4
6
4
3
2
6
7
8
[1, 2, 2, 3, 4, 4, 6, 6, 7, 8]
true
true
true

```

[function]Passing a list to a function

```

n = int(input("enter the size of the list\n"))
ls = []

print("enter the list elements \n")

for i in range(n):
    ls.append(int(input()))
print("original list \n",ls)
c=0
for i in range(n):
    if(ls[i]<0):
        ls[i] = int((ls[i])/ -1)
        c=c+1
print("list after changes \n",ls)
print("no. of changes = ",c)

```

```

enter the size of the list
10
enter the list elements

-1
34
28
-67

```

```
45
50
-17
3
4
7
original list
[-1, 34, 28, -67, 45, 50, -17, 3, 4, 7]
list after changes
[1, 34, 28, 67, 45, 50, 17, 3, 4, 7]
no. of changes = 3
```