

## Practice-1

### Splitting string into letters

```
def split(word):  
    return [char for char in word]  
word = 'geeks'  
print(split(word))
```

or

```
n = input()  
def split(n):  
    return [char for char in n]  
p = split(n)  
print(p)
```

## Practice – 2

### HCF or GCD

```
n1 = int(input())  
n2 = int(input())  
lst = []  
for i in range(1,min(n1,n2)):  
    if n1 % i == 0 and n2 % i == 0:  
        lst.append(i)  
print(max(lst))
```

## Practice-3

### LCM of 2 nos.

```
n1 = int(input())  
n2 = int(input())  
lst = []  
for i in range(1,min(n1,n2)):  
    if n1 % i == 0 and n2 % i == 0:  
        lst.append(i)  
lcm = (n1*n2)//max(lst)  
print(lcm)
```

## Practice-4

### Check Odd and Even

```
n = int(input())  
if n % 2 == 0:  
    print("even")  
else:  
    print("odd")
```

## Practice – 5

### Factorial of a nos.

```
n = int(input())  
fact = 1  
for i in range(1,n+1):  
    fact = fact*i  
print(fact)
```

## Practice – 6

### Average of 2 nos.

```
n1 = int(input())  
n2 = int(input())  
avg = (n1+n2)/2  
print(avg)
```

## Practice – 7

### Swap 2 nos.

```
n = list(map(int,input().split()))
print(n[1],n[0])
```

## Practice – 8

### Fibonacci series

```
def fibb(n):
    if n <= 1:
        print(n)
    else:
        a = 0
        b = 1
        print(a,b,end=" ")
        for i in range(1,n-1):
            c = a+b
            print(c,end=" ")
            a = b
            b = c
n = int(input())
fibb(n)
```

## Practice – 9

### Sum of digits

```
n = input()
sum = 0
n1 = int(n)
for i in range(1,len(n)+1):
    x = n1 % 10
    n1 = n1//10
    sum = sum + x
print(sum)
```

## Practice – 10

### Greatest of 3 nos.

```
n = list(map(int,input().split()))
print(max(n))
```

## Practice – 11

### Concatenate 2 string

```
n1 = input()
n2 = input()
print(n1+n2)
```

## Practice – 12

### Reverse of a no.

```
n1 = input()
n = int(n1)
x = 0
l = len(n1)
while l > 0:
```

```

    a = n%10
    n = n//10
    x = x*10+a
    l = l-1
print(x)

```

### Practice – 13

#### Reverse a string

```

n1 = input()
for i in range(len(n1)-1,-1,-1):
    print(n1[i],end="")

```

### Practice – 14

#### Palindrome

```

n1 = input()
l = len(n1)
for i in range(0,l):
    if n1[i] == n1[(l-1)-i]:
        print("palindrome")
        break
    else:
        print("not a palindrome")
        break

```

### Practice – 15

#### Prime no in range of n.

```

import math
n = int(input())
for i in range(2,n+1):
    for j in range(2,int(math.sqrt(i))+1):
        if i % j == 0:
            break
    else:
        print(i,end=" ")

```

### Practice – 16

#### Check for a prime no.

```

import math
n = int(input())
for j in range(2,int(math.sqrt(n))+1):
    if n % j == 0:
        print("not a prime")
        break
else:
    print("prime no")

```

### Practice – 17

#### Armstrong no.

```

n = input()
b = len(n)
y = int(n)
x = 0
for i in range(b):
    a = int(n)%10
    n = int(n)//10
    x = x + pow(a,b)
if y == x:
    print("armstrong no")

```

```
else:
    print("not a armstrong no")
```

#### Practice – 18

##### Perfect no.

```
n = int(input())
x = 0
for i in range(1,n):
    if n % i == 0:
        x = x + i
if n == x:
    print("perfect no")
else:
    print("not a perfect no")
```

#### Practice – 19

##### Strong no.

```
from math import factorial
n = input()
b = len(n)
y = int(n)
x = 0
for i in range(b):
    a = int(n)%10
    n = int(n)//10
    x = x + factorial(a)
if y == x:
    print("strong no")
else:
    print("not a strong no")
```

#### Practice – 20

Input – aaBbbCccddd

Output – a2B1b2C1c2d3 //count no of times char repeated print with char

```
x = input()
l = len(set(x))
for i in range(l):
    print(x[0] + str(x.count(x[0])), end = "")
    x = x.replace(x[0], "")
```

#### Practice – 21

##### Print next term of the series

1,1,2,3,4,9,8,27,16,81,32,243,....

```
n = list(map(int,input().split()))
p = len(n)
if n[p-1] % 3 == 0:
    print(n[p-2]*2)
else:
    print(n[p-2]*3)
```

#### Practice – 22

Nth term of the above series

```

n = int(input())
if n < 3:
    print(1)
else:
    if n % 2 == 0:
        a = (n // 2) - 1
        print(pow(3,a))
    else:
        a = (n // 2)
        print(pow(2,a))

```

#### Practice – 23

##### Leap year or not

```

n = int(input())
if n % 4 == 0 and n % 100 != 0:
    print("leap year")
elif n % 400 == 0:
    print("leap year")
else:
    print("not a leap year")

```

#### Practice – 24

##### Prime – Fibonacci series nth term

1,2,1,3,2,5,3,7,5,11,8,13,13,17

```

import math
lst = []
lst1 = [0,1]
n = int(input())
def prime(n):
    for i in range(2, 1000):
        for j in range(2, int(math.sqrt(i)) + 1):
            if i % j == 0:
                break
        else:
            lst.append(i)
def fibb(n):
    a = 0
    b = 1
    for i in range(1,n-1):
        c = a+b
        lst1.append(c)
        a = b
        b = c
if n % 2 == 0:
    prime(n)
    print(lst[(n//2)-1],end = " ")
else:
    fibb(n)
    print(lst1[(n//2)+1])

```

#### command line argument

```

#include
#include
int main(int argc, char * argv[])
{
    if(argc==1)

```

```

{
printf("No arguments");
return 0;
}
else
{
int radius;
float pi=3.14;
float area;
radius=atoi(argv[1]);
area=pi*radius*radius;
printf("%.2f",area);
return 0;
}
}

```

## Practice – 25

### Word replacing

```

import sys
word1=input()
word2=input()
word3=input()
for ch in word1:
    if ch in "aeiouAEIOU":
        word1 = word1.replace(ch,"$")

for ch in word2:
    if ch in "aeiouAEIOU":
        word2 = word2.replace(ch,"#")

for ch in word3:
    if ch in "abcdefghijklmnopqrstuvwxyz":
        word3 = word3.upper()
print(word1,word2,word3)

```

## Practice – 26

### word in given list

```

lst = ['raj','aka','randa']
n = input()
p = len(lst)
for i in lst:
    if n in lst:
        print("yes babe")
        break
    else:
        print("no babe")
        break

```

## Practice – 27

### hexadecimal

```
n = input()
l = len(n)
def split(n):
    return [char for char in n]
n = split(n)
for i in range(l):
    if n[i] in "aA":
        n[i] = '10'
    elif n[i] in "bB":
        n[i] = '11'
    elif n[i] in "cC":
        n[i] = '12'
    elif n[i] in "dD":
        n[i] = '13'
    elif n[i] in "eE":
        n[i] = '14'
    elif n[i] in "fF":
        n[i] = '15'
    elif n[i] in "gG":
        n[i] = '16'
x = 0
n.reverse()
for i in range(l):
    x = int(n[i])*pow(17,i)+ x
print(x)
```

### Or

```
lst1 = ['A','B','C','D','E','F','G']
lst = [10,11,12,13,14,15,16]
n = input()
l = len(n)
def split(n):
    return [char for char in n]
n = split(n)
for i in range(l):
    p = 0
    for j in lst1:
        p+=1
        if n[i] == j:
            for k in lst:
                n[i] = lst[p-1]
x = 0
n.reverse()
for i in range(l):
    x = int(n[i])*pow(17,i)+ x
print(x)
```

## Practice – 28

### 9's compliment

```
n = input()
l = len(n)
p = str(9)
c = 0
for i in n:
    c = c+1
    if i in ".":
```

```

        break
b = 1-c
a = int(float(n) * pow(10,b))
for i in range(1-2):
    p = str(9) + p
x = (int(p) - int(a))/pow(10,b)
print(x)

```

#### Practice – 29

Evaluate expression

7add5subtract4 = 8

```

inp = input()
val1 = inp.replace("add","+")
val2 = val1.replace("subtract","-")
val3 = val2.replace("multiply","*")
val4 = val3.replace("divide","/")
print(eval(val4))

```

#### Practice – 30

Count no of letter in a given word not repeated

i/p=amcamd      o/p=2

```

x = input()
l = len(set(x))
n=0
for i in range(l):
    c=str(x.count(x[i]))
    if int(c)<=1:
        n+=1
    x = x.replace(x[i], "")
print(x)
print(n)

```

#### Practice – 31

Count no of valleys form sea level U=up 1 unit D=down 1 unit

i/p=UDDDUDUU      O/P=1

I/P=DDUDDUUUUUD      O/P=2

```

n=input()
def split(n):
    return [char for char in n]
p=split(n)
c=0
a=0
for i in range(len(p)):
    if a==0 and p[i-1]=='U':
        c+=1
    if p[i] == 'D':
        a=-1
    else:
        a+=1
print(c)

```

#### Practice – 32

Making pairs

i/p= 9      o/p = 3

10 20 20 10 10 30 50 10 20



```

n = int(input())
ar=list(map(int,input().split()))
ar.sort()
print(ar)
c=1
sum=0
a=ar[0]
for i in range(1,n):
    if a==ar[i]:
        c+=1
    elif a!=ar[i] or i==n-1:
        a=ar[i]
        sum=sum+c//2
        c=1
sum=sum+c//2
print(sum)

```

### Practice – 33

#### Cloud jumping

**i/p = 6                      o/p = 3                      i/p =**  
**000010**

```

n = int(input())
ar=list(map(int,input().split()))
print(ar)
c=1
p=0
sum=0
a=ar[0]
for i in range(1,n):
    if a==ar[i]:
        c+=1
    else:
        p+=1
        a=ar[i]
        sum=sum+(c//2)
        c=1
p+=1
sum=sum+(c//2)+p//2
print(sum)

```

### Practice – 34

#### Repeated string    count 'a'

**i/p = 10      o/p = 5              i/p = 100              o/p = 100**  
**ab                                      a**

```

s = input()
l=len(s)
def split(x):
    return [char for char in s]
p=split(s)
c=0
for i in range(l):
    if p[i]=='a':
        c += 1
r=n%l
t=c*(n//l)
cc=0
for i in range(r):
    if p[i]=='a':
        cc += 1
print(t+cc)

```

### Practice – 35

```
#code for decimal to binary
n = int(input())
a = []
while n>0:
    p = n % 2
    a.append(p)
    n = n//2
l = len(a)
for i in range(l):
    print(a[l-i-1],end=" ")
```

### Practice – 36

### Practice – 37

### Practice – 38

### Practice – 39

### Practice – 40