



# Lab task 8

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## Program no 1

```
n = int(input("Enter the value of n :"))
r = int(input("Enter the value of r :"))

def factorial(x):
    factorial = 1
    for i in range(1,x+1):
        factorial=factorial*i
    y = factorial
    return y

def permutation(n, r):
    p = factorial(n) / factorial(n-r)
    return p

result = permutation(n, r)
print("npr for n= ", n, "and r= ", r, "is ", result)
```

## Output no 1

```
Enter the value of n :5
Enter the value of r :4
npr for n= 5 and r= 4 is 120.0
```



```
Enter the value of n :8
Enter the value of r :7
npr for n= 8 and r= 7 is 40320.0
```

## Program no 2

```
def factors(x):
    for i in range(1, x+1):
        if x % i == 0:
            print(i)

x = int(input("Enter the number you want
to find the factors for : "))
print("The factors for the number ", x, "
are as following ")
factors(x)
```



## Output no 2

```
Enter the number you want to find the factors for : 80
The factors for the number 80 are as following
1
2
4
5
8
10
16
20
40
80
```

## Program no 3

```
counter = 0
i = 1
sum = 0
while counter!=10:
    if i%3==0 and i%9==0:
        counter += 1
        sum = sum + i
    i=i+1
print(sum)
```

## Output no 3

```
C:\Users\User\PycharmProjects\pythonProject32\
495

Process finished with exit code 0
```



## Program no 4

```
terms = int(input("Enter the number of  
terms you want to print the fibonacci  
series upto :"))  
def fibonacci_series(x):  
    n1 = 0  
    n2 = 1  
    if terms <= 0:  
        print("Error: Enter only positive  
number ")  
    elif terms == 1 :  
        print("Fibonacci series  
upto",terms,"is 0 ")  
    else :  
        print ("Fibonacci series : ")  
        count = 0  
        while count < terms:  
            print(n1)  
            nth = n1 + n2  
            n1 = n2  
            n2 = nth  
            count = count + 1  
fibonacci_series(terms)
```



## Output no 4

```
Enter the number of terms you want to print the fibonacci series upto :10
Fibonacci series :
0
1
1
2
3
5
8
13
21
34
```

```
Enter the number of terms you want to print the fibonacci series upto :15
Fibonacci series :
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
```

## Program no 5

```
print("1. Coffee  2.Tea  3.Coke  4.Orange  
juice")
user = input("choose your favourite
```



```
beverages from the following list : ")
opt1 = 0
opt2 = 0
opt3 = 0
opt4 = 0

while (user != '0') :
    try:
        u = int(user)
        if (u == 1):
            opt1 +=1
        elif (u == 2):
            opt2 +=1
        elif (u == 3):
            opt3 +=1
        elif (u == 4):
            opt4 +=1

        elif (u == -1):
            break
    except:
        print("Failed")
    user = input("choose your favourite
beverages from the following list \n 1.
Coffee  2.Tea  3.Coke  4.Orange juice")
print("Beverages          No of votes
")
print("*****")
```



```
)  
print("Coffee", opt1)  
print("Tea", opt2)  
print("Coke", opt3)  
print("Juice", opt4)
```

## Output no 5

```
C:\Users\User\PycharmProjects\pythonProject29\venv\Scripts\python.  
1. Coffee 2.Tea 3.Coke 4.Orange juice  
choose your favourite beverages from the following list : 1  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice2  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice1  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice2  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice1  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice2  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice1  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice2  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice3  
choose your favourite beverages from the following list  
1. Coffee 2.Tea 3.Coke 4.Orange juice4
```





choose your favourite beverages from the following list

1. Coffee 2.Tea 3.Coke 4.Orange juice-1

Beverages	No of votes
-----------	-------------

\*\*\*\*\*

Coffee	4
--------	---

Tea	4
-----	---

Coke	1
------	---

Juice	1
-------	---

Process finished with exit code 0

## Additional Program

```
# ll stands for lower limit
# ul stands for upper limit
ll = int(input("Enter the lower limit :
"))
ul = int(input("Enter the upper limit :
"))
print("The prime numbers between integer
", ll, "and ", ul, "are as following ")
for a in range(ll,ul+1):
    if a>1:
        for b in range(2,a):
            if(a%b)==0:
                break
        else:
            print(a)
```



## Output (Additional Function)

---

```
The prime numbers between integer 1 and 10 are as following
2
3
5
7

Process finished with exit code 0
|
```