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Python Programming - 2101CS405

Lab - 3

for and while loop

01) WAP to print 1 to 10

In [1]:
```
for i in range(1,11):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

02) WAP to print 1 to n

In [3]:
```
n= int(input("Enter range n:"))
for i in range(1,n+1):
    print(i)
```

```
Enter range n:4
1
2
3
4
```

03) WAP to print odd numbers between 1 to n

In [14]:
```
n= int(input("Enter Number n:"))
print("odd numbers between 1 to ",n)
for i in range(1,n+1):
    if(i%2!=0):
        print(i)
```

```
Enter Number n:7
odd numbers between 1 to  7
1
3
5
7
```

04) WAP to print numbers between two given numbers which is divisible by 2 but not divisible by 3

In [15]:
```
n= int(input("Enter Number n:"))
m= int(input("Enter Number m:"))
print(n,"between",m,"numbers which is divisible by 2 but not divisible by 3")
for i in range(n,m):
    if(i%2==0 and i%3!=0):
        print(i)
```

```
Enter Number n:2
Enter Number m:20
2 between 20 numbers which is divisible by 2 but not divisible by 3
2
4
8
10
14
16
```

05) WAP to print sum of 1 to n numbers

In [17]:
```
sum=0
n= int(input("Enter Number n:"))
print("sum of 1 to ",n, "number")
for i in range(1,n+1):
    sum=sum+i
print(sum)
```

```
Enter Number n:5
sum of 1 to  5 number
15
```

06) WAP to print sum of series 1 + 4 + 9 + 16 + 25 + 36 + ...n

In [19]:
```
sum=0
n= int(input("Enter Number n:"))
print("sum of series 1 + 4 + 9 + 16 +...")
for i in range(1,n+1):
    sum=sum+(i**i);
print(sum)
```

```
Enter Number n:3
sum of series:
32
```

07) WAP to print sum of series 1 – 2 + 3 – 4 + 5 – 6 + 7 ... n

In [22]:
```
sum=0;
n= int(input("Enter Number n:"))
print("sum of series 1 - 2 + 3 - 4 + 5 - 6 + 7 ... ")
for i in range(1,n+1):
    if(i%2==0):
        sum=sum-i
    else:
        sum=sum+i
print(sum)
```

```
Enter Number n:2
sum of series 1 - 2 + 3 - 4 + 5 - 6 + 7 ...
-1
```

08) WAP to print multiplication table of given number.

In [31]:
```
n= int(input("Enter Number n:"))
print("multiplication table of given ",n)
for i in range(1,11):
    print(n ,"*",i,"=", i*n)
```

```
Enter Number n:6
multiplication table of given  6
6 * 1 = 6
6 * 2 = 12
6 * 3 = 18
6 * 4 = 24
6 * 5 = 30
6 * 6 = 36
6 * 7 = 42
6 * 8 = 48
6 * 9 = 54
6 * 10 = 60
```

09) WAP to find factorial of the given number

In [35]:
```
fac=1;
n= int(input("Enter Number n:"))
print("factorial of the of given ",n)
for i in range(1,n+1):
    fac=fac*i;
print(fac)
```

```
Enter Number n:3
factorial of the of given  3
6
```

10) WAP to find factors of the given number

In [37]:
```
n= int(input("Enter Number n:"))
print("factors of the of given ",n)
for i in range (1,n+1):
    if(n%i==0):
        print(i)
```

```
Enter Number n:10
factors of the of given  10
1
2
5
10
```

11) WAP to find whether the given number is prime or not.

In [50]:
```
n= int(input("Enter Number n:"))
print("given number is prime or not")
flag=0
for i in range (2,(n//2)+1):
    if(n%i==0):
        flag=1;
        break;
if(flag==0):
    print("Number is prime")
else:
    print("Number is not prime")
```

```
Enter Number n:5
given number is prime or not
Number is prime
```

12) WAP to print sum of digits of given number

In [66]:
```
sum=0
reminder=0
n=int(input("Enter the number:"))
while(n>0):
    reminder =(n%10)
    sum =sum+reminder
    n //=10
print("Sum of digits=",sum)
```

```
Enter the number:123
Sum of digits= 6
```

13) WAP to check whether the given number is palindrome or not

In [75]:
```
a=0
n=int(input("Enter the number:"))
temp=n
while(n>0):
    d=n%10
    a=a*10+d
    n=n/10
if(temp==n):
    print("palindrome")
else:
    print("Not palindrome")
```

```
Enter the number:6539586
Not palindrome
```

01) WAP to check whether the given number is Armstrong or not.

In [78]:
```
n= int(input("Enter a number: "))
sum = 0
temp = n
while temp > 0:
    digit = temp % 10
    sum += digit ** 3
    temp //= 10
if n == sum:
    print("Given number is an Armstrong number")
else:
    print("Given number is not an Armstrong number")
```

```
Enter a number: 371
Given number is an Armstrong number
```

02) WAP to find out prime numbers between given two numbers.

In [91]:
```
start = int(input("Enter the start: "))
stop = int(input("Enter the end: "))
print("Prime numbers between", start, "and", stop, "are:")
for k in range(start, stop):
    if k > 1:
        for i in range(2, k):

            if (k % i) == 0:

                break;

        else:
            print(k, end=" ")
```

```
Enter the start: 1
Enter the end: 5
Prime numbers between 1 and 5 are:
2 3
```

03) WAP to calculate x^y without using any function.

In [92]:
```
start= int(input("Enter the base number:"))
end= int(input("Enter the exponent number"))
temp = start
while(end>1):
    start *= temp
    end -= 1
print("Answer=",start)
```

```
Enter the base number:2
Enter the exponent number3
Answer= 8
```

04) WAP to check whether the given number is perfect or not.

[Sum of factors including 1 excluding number itself]

In [95]:
```
n = int(input("Enter the number :"))
temp = 0
for i in range(1,n):
    if(n%i==0):
        temp += i
if(temp == n):
    print("The number is perfect")
else:
    print("The number is not perfect")
```

```
Enter the number :6
The number is perfect
```

05) WAP to find the sum of 1 + (1+2) + (1+2+3) + (1+2+3+4)+...+(1+2+3+4+....+n)

In [1]:
```
n = int(input("Enter the last number of the series:"))
sum = 0
for i in range(1,n+1):
    for j in range(1,i+1):
        sum += j
print("Answer=",sum)
```

```
Enter the last number of the series:2
Answer= 4
```

06) WAP to print Multiplication Table up to n

In [30]:
```
n= int(input("Enter Number n:"))
print("multiplication table of given ",n)
m= int(input("Enter Number till multiply:"))
for i in range(1,m+1):
    print(n ,"*",i,"=", i*n)
```

```
Enter Number n:5
multiplication table of given  5
Enter Number till multiply:5
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
```

In [ ]:
```

```