

```
# Print numbers from 1 to 100.  
for i in range(1,101):  
    print(i,end=" ")
```

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

```
#Print the multiplication table of a number.  
n = int(input("enter a number: "))  
for i in range(1,11):  
    print(n,"x","=",n*i)
```

```
enter a number: 7  
7 x = 7  
7 x = 14  
7 x = 21  
7 x = 28  
7 x = 35  
7 x = 42  
7 x = 49  
7 x = 56  
7 x = 63  
7 x = 70
```

```
#sum of the first 10 natural numbers.  
sum = 0  
for i in range(1,11):  
    sum += i  
    print(sum,end=" ")
```

1 3 6 10 15 21 28 36 45 55

```
#all even numbers from 1 to 50.  
for i in range(1,51):  
    if(i % 2 == 0):  
        print(i,end=" ")
```

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

```
#the factorial of a number.  
n = 4  
fact = 1  
for i in range(1,n+1):  
    fact *= i  
    print(fact)
```

1  
2  
6  
24

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```
#Print the first n Fibonacci numbers.  
n = 7  
a, b = 0, 1  
for i in range(n):  
    print(a,end=" ")  
    a, b = b, a + b
```

0 1 1 2 3 5 8

```
#7. Check whether a number is prime.  
n = int(input("Enter number: "))  
count = 0  
for i in range(1, n + 1):  
    if n % i == 0:  
        count += 1
```

```
if count == 2:
    print("Prime Number")
else:
    print("Not Prime")
```

Enter number: 4  
Not Prime

```
# count the number of digits in a number
n = input("Enter number: ")
count = 0
for digit in n:
    count += 1
print(count)
```

Enter number: 784368  
6

```
# the sum of digits of a number
num = input("Enter a number: ")

sum = 0

for digit in num:
    sum += int(digit)

print(sum)
```

Enter a number: 097  
16

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))

# LCM will be at most a*b
for i in range(1, a*b + 1):
    if i % a == 0 and i % b == 0:
        lcm = i
        break

print(lcm)
```

Enter first number: 7  
Enter second number: 8  
56

```
i = 1
while i<=10:
    print(i)
    i += 1
```

1  
2  
3  
4  
5  
6  
7  
8  
9  
10

```
# reverse number
n = int(input("Enter number: "))
rev = 0
while n > 0:
    digit = n % 10
    rev = rev * 10 + digit
    n //= 10
```

```
print(rev)
```

```
Enter number: 23445
54432
```

```
# Check if a number is a palindrome.
n = int(input("Enter number: "))
temp = n
rev = 0

while temp > 0:
    digit = temp % 10
    rev = rev * 10 + digit
    temp //= 10

if rev == n:
    print("Palindrome")
else:
    print("Not Palindrome")
```

```
Enter number: 45
Not Palindrome
```

```
#Keep taking input until the user enters 0.
num = int(input("Enter number: "))

while num != 0:
    num = int(input("Enter number: "))

print("You entered 0. Program ended.")
```

```
Enter number: 0
You entered 0. Program ended.
```

```
#Find the GCD (HCF) of two numbers using a while loop.
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))

while b != 0:
    a, b = b, a % b

print("HCF =", a)
```

```
Enter first number: 78
Enter second number: 89
HCF = 1
```

```
#Print all odd numbers between two given numbers.
a = int(input("enter first number: "))
b = int(input("enter second number: "))
i = a
while i <= b:
    if i % 2 != 0:
        print(i)
    i += 1
```

```
enter first number: 1
enter second number: 10
1
3
5
7
9
```

```
# Print the multiplication table using a while loop.
n = int(input("Enter number: "))

i = 1
while i <= 10:
    print(n, "x", i, "=", n * i)
    i += 1
```

```
Enter number: 9
9 x 1 = 9
9 x 2 = 18
9 x 3 = 27
9 x 4 = 36
9 x 5 = 45
9 x 6 = 54
9 x 7 = 63
9 x 8 = 72
9 x 9 = 81
9 x 10 = 90
```

```
#Print the sum of digits of a number using a while loop
n = int(input("enter number: "))
total = 0
while n > 0:
    digit = n%10
    total += digit
    n //= 10
print(total)
```

```
enter number: 123456
6
11
15
18
20
21
```

```
# fibonacci series using a while loop
n = int(input("Enter how many terms: "))

a, b = 0, 1
count = 0

while count < n:
    print(a)
    a, b = b, a + b
    count += 1
```

```
Enter how many terms: 7
0
1
1
2
3
5
8
```

```
#guessing game:keep asking the user to guess a number until correct
secret = 7

guess = int(input("Guess number: "))

while guess != secret:
    guess = int(input("Wrong! Guess again: "))

print("Correct guess!")
```

```
Guess number: 78
Wrong! Guess again: 3
Wrong! Guess again: 7
Correct guess!
```

```
# Write a program to check whether a number is positive, negative, or zero
num = int(input("enter a number: "))
if num > 0:
    print("positive")
elif(num < 0):
    print("negative")
else:
    print("zero")
```

enter a number: 8  
positive

```
num = int(input("enter number: "))
if(i%2==0):
    print("even")
else:
    print("odd")
```

enter number: 5  
odd

```
age = int(input("enter your age: "))
if(age >= 18):
    print("eligible to vote")
else:
    print("not eligible")
```

enter your age: 19  
eligible to vote

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))

if a > b:
    print(a, "is larger")
elif b > a:
    print(b, "is larger")
else:
    print("Both are equal")
```

Enter first number: 12  
Enter second number: 15  
15 is larger

```
ch = input("Enter a character: ")

if ch in "aeiouAEIOU":
    print("Vowel")
else:
    print("Consonant")
```

Enter a character: i  
Vowel

```
num = int(input("Enter a number: "))

if num % 5 == 0 and num % 11 == 0:
    print("Divisible by both 5 and 11")
else:
    print("Not divisible by both 5 and 11")
```

Enter a number: 35  
Not divisible by both 5 and 11

```
year = int(input("Enter year: "))

if (year % 400 == 0) or (year % 4 == 0 and year % 100 != 0):
    print("Leap year")
else:
    print("Not a leap year")
```

```
Enter year: 2004
```

```
Leap year
```

```
num = int(input("Enter a number: "))

if num > 0:
    print("Positive")
    if num % 2 == 0:
        print("Even")
    else:
        print("Odd")
elif num < 0:
    print("Negative")
else:
    print("Zero")
```

```
Enter a number: 78
```

```
Positive
```

```
Even
```

```
marks = int(input("Enter marks: "))
```

```
if marks >= 90:
    print("Grade A")
elif marks >= 75:
    print("Grade B")
elif marks >= 60:
    print("Grade C")
elif marks >= 40:
    print("Grade D")
else:
    print("Fail")
```

```
Enter marks: 70
```

```
Grade C
```

```
age = int(input("Enter age: "))
```

```
if age < 13:
    print("Child")
elif age < 20:
    print("Teenager")
elif age < 60:
    print("Adult")
else:
    print("Senior")
```

```
Enter age: 17
```

```
Teenager
```

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
c = int(input("Enter third number: "))
```

```
if a >= b and a >= c:
    print(a, "is largest")
elif b >= a and b >= c:
    print(b, "is largest")
else:
    print(c, "is largest")
```

```
Enter first number: 6
```

```
Enter second number: 5
```

```
Enter third number: 5
```

```
6 is largest
```

```
a = int(input("Enter side 1: "))
b = int(input("Enter side 2: "))
c = int(input("Enter side 3: "))
```

```
if a == b == c:
    print("Equilateral Triangle")
```

```
elif a == b or b == c or a == c:  
    print("Isosceles Triangle")  
else:  
    print("Scalene Triangle")
```

```
Enter side 1: 15  
Enter side 2: 16  
Enter side 3: 17  
Scalene Triangle
```