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**Enrollment: 0176CD231080**

**Batch: 5**

**Batch Time: 10:30 – 12:10**

Conditional statement-

# question 1 - write a program to check wheather the number is possitive, negative or zero

#sol.-

```
num = int(input("Enter the number:"))
if(num>=1):
   print(f"the number: {num} is possitive")
elif(num<0):
   print(f"the number: {num} is negative")
elif(num==0):
   print(f"the number: {num} is equal to zero")
else:
   print("the number in not valid")
```

#2write a program to check wheather number is even or odd

#sol.-

```
num = int(input("Enter the number:"))
if(num%2==0):
   print(f"the number: {num} is even")
else:
   print(f"the number {num} is odd")
```

#3write a program to ckeck the year is leap or not

#sol.-

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

```
if(y%4==0 or y%100==0  and y%400):   #Agar 400 se divisible hai → Leap year hai
                                #Agar 100 se divisible hai (par 400 se nahi) → Leap year nahi hai
  print(f"The year: {y} is leap")   #Agar 4 se divisible hai (aur 100 se nahi) → Leap year hai
else:
   print(f"The year:{y} is not leap yar") #Baaki sab → Leap year nahi hai'''


#4write a program to find gretest of two numbers
#sol.-
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
if(num1>num2):
   print(f"The number1: {num1} is gretest")
else:
   print(f"The number2: {num2} is grete")


#5write a proram to check wheather the person is eligible for vote(age>=18
#sol.-
age = int(input("Enter your age:"))
if(age>=18):
   print("the person is eligible for vote")
else:
   print("the person is not eligible for vote")

#6write a program to check wheather the given character is vowel pr consonamat
#sol.-
#char = ('a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t','u','v','w','x','y','z')
char = input("Enter the character:")
Vowel = ('a','e','i','o','u')
if(char in  Vowel):
```

```
    print(f"The given charater:{char} is vowel")
else:
    print(f"The given character : { char} is consonant")

#7write a program to check if a  number is divisible by 5
#sol.-
a = int(input("Enter the number:"))
if(a%5==0):
    print(f"The number: {a} is devisible by 5")
else:
    print(f"The number: {a} is not devisible by 5")


#8write a program to check wheather given number is one digit. two digit or more than one digit
#sol.-
n = int(input("Enter the number:"))
num = abs(n) # take absalute value to ignore minus sigh
if(num<10):
    print(f"The given number:{num} is sinle didgit")
elif(num<100):
    print(f"The given number:{num} is two digit")
else:
    print(f"The given number:{num} is more than two digit")


#9 write a program to check wheather a student is pass or fail(passing marks=40)
#sol.-
m = int(input("Enter the marks:"))
if(m>=40):
    print(f"marks:{m} student is pass (very good)")
else:
```

```
    print(f"marks: {m} student is fail (try again)")'''

#10 write a program to find wheather the entered number is multiple of both 3 and 7
#sol.-
num = int(input("Enter the number:"))
if(num%3==0 and num%7==0):
    print(f"The entered number:{num} is multiple of both(3 and 7)")
else:
    print(f"The entered numver:{num} is not multiple of both(3 and 7)")
#1 write a program to find largest among three number
#sol. –
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
num3 = int(input("Enter the number3:"))
if(num1>num2 and num1>num3):
    print(f"Entered number:{num1} is largest")
elif(num2>num1 and num2>num3):
    print(f"Entered number:{num2} is largest")
else:
    print(f"Entered number:{num3} is largest")



 #2 write a program to check age based: child(<13), teenage(13-19) ,adult(20-59), senior(60+)
#sol.-
age = int(input("Enter the age:"))
if(age<=13):
    print(f"Child, the age is :{age} ")
elif(age>13 and age<20):
    print(f"teenage, the age is:{age}")
elif(age>=20 and age<60):
```

```
    print(f"Adult, the age is:{age}")
else:
    print(f"Senior, the age is:{age}")


#3 write a program to asigh grade based on marks
90-100: A,
75-89: B,
50-74: C,
35-49: D,
<35: Fail
#sol.-
m = int(input("Enter your marks:"))
if(m>=90):
    print(f"your marks is:{m} and grade 'A'")
elif(m<90 and m>=75):
    print(f"your marks is:{m} and grade 'b'")
elif(m<75 and m>=50):
    print(f"your marks is:{m} and grade 'c' ")
elif(m<50 and m>=35):
    print(f"your marks is: {m} and grade 'd' ")
else:
    print(f"your marks is: {m} and you are fail ")


#4 Write a program to check the type of triangle (equilateral, isosceles, or scalene) based on sides.)
#sol.-
a = int(input("Enter the number:"))
b = int(input("Enter the number:"))
c = int(input("Enter the number:"))
#if(a+b>c and a+c>b and b+c>a): # this condition appply for rule of triangle
if(a==b==c):
        print("given number's of triangle is equilateral")
```

```
elif(a==b or a==c or b==c):
   print("given number's of triangle is isosceles")
else:
   print("given number's of triangle is scalene")
```

#5 Write a program to check if a character is uppercase, lowercase, digit, or special symbol.

#sol.-

```
chr = input("Enter the character:")
if(chr.isupper()):
   print(f"the entered character is:{chr} in uppercase")
elif(chr.islower()):
   print(f"the entered character is :{chr} in lowercase")
elif(chr.isdigit()):
   print(f"the entered character is :{chr} in digits")
else:
   print(f"the entered character is : {chr} in special type of symbol")
```

#6 Write a program to calculate electricity bill based on units:

Up to 100 units:  5 per unit,

101–200 units:  7 per unit,

Above 200 units:  10 per unit

#sol.-

```
unit = int(input("Enter utis for find electricty bill:"))
if(unit<=100):
   print(f"per units based on electricty bill is :{unit*5}")
elif(unit>=101 and unit<200):
   print(f"per units based on electricity bill is: {((100*5)+((unit-100))*7)}")
elif(unit>=200):
   print(f"per units based on electricity bill is: {(((100*5)+(100*7))+(unit-200)*10)}")
```

#7 Write a program to determine the largest of four numbers using nested if.

#sol.-

```
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
num3 = int(input("Enter the number3:"))
num4 = int(input("Enter the number4:"))
if(num1>num3 and num1>num3 and num1>num4):
   print(f"the largest number is:{num1}")
elif(num2>num1 and num2>num3 and num2>num4):
   print(f"the largest number is:{num2}")
elif(num3>num1 and num3>num2 and num3>num4):
   print(f"the largest number is:{num3}")
else:
   print(f"the largest number is:{num4}")

# by using neste if
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
num3 = int(input("Enter the number3:"))
num4 = int(input("Enter the number4:"))
if(num1>num2):
   if(num1>num3):
      if(num1>num4):
         largest = num1
      else:
         largest = num4

   else:
      if(num2>num3):
         if(num2>num4):
```

```
            largest = num2
        else:
            largest = num4
    else:
        if(num3>num4):
            largest = num3
        else:
            largest = num4

print(f"the largest number is:{largest}")
```

#8 Write a program to check if a given year is a century year and also a leap year.

#sol.-

```
y = int(input("Enter the year:"))
if(y%100==0):
    if(y%400==0):
     print(f"the entered year:{y} is a century year and also a leap year")
    else:
      print(f"The entered year:{y} is century year but not leap year")
else:
   if( y%4==0):
     print(f"The entered year:{y} is leap year but not century year")
   else:
     print(f"The entered year:{y} is not century yaer and not leap year")
```

#9 Write a program to classify BMI value: Underweight (<18.5), Normal (18.5-24.9), Overweight (25-29.9),

obese(30+)

#sol.-

```
val = float(input("Enter the BMI value:"))
if(val<18.5):
    print(f"BMI value is underweight:{val}")
elif(val>=18.5 and val<=24.9):
    print(f"BMI value is normal:{val}")
elif(val>=25 and val<=29.9):
   print(f"BMI value is overweight:{val}")
else:
   print(f"BMI value is obese:{val}")'''
```

#10 Write a program to display the smallest number among three using nested if.

#sol.-

```
n1 = int(input("Enter the number1:"))
n2 = int(input("Enter the number2:"))
n3 = int(input("Enter the number3:"))
if(n1<n2):
   if(n1<n3):
      smallest = n1
   else:
      smallest = n3
else:
   if(n2<n3):
      smallest = n2
   else:
      smallest = n3
print(f"the smallest number is:{smallest}")
```

Loops-

#1 write a program using a for loop to print all Armstrong numbers between 100 and 999.
(Armstrong number: in python

sum of cubes of digits equals the number itself. Example: 153 => 13+53+33 = 153).

#sol.-

```
for num in range(100,1000):
   d1 = num//100 #we use for find for first digit
   d2 = (num//10)%10 # we use for find second digit
   d3 = num%10 #we use for find third dijit
   if(num==d1*3 + d23 + d3*3):
    print(num)
```

#2 Write a program to generate and display the first n prime numbers using a for loop.

```
n = int(input("Enter the number:"))
for i in range(2,n):
   if(n%i==0):
      print(f"{n} number is not prime")
      break
else:
   print(f"{n} number is prime")
```

#3 Write a program to display all numbers from 1 to 500 that are divisible by 3, but the sum of their digits

should not exceed 10.

```
for i in range(1,501):
   if(i%3==0):
      digit_sum = sum(int(d) for d in str(i))
      if(digit_sum<=10):
        print(i)
```

#4 Write a program using a for loop to print a pyramid of stars (*) of height n. Example for n=4:

```
   *
  ***
 *****
*******
```

```
n = int(input("Enter the number:"))
for i in range(1,n+1):
    print(" "*(n-i), end=" ")
    print(""(2*i-1))
```

#5 Write a program to accept a string and check whether it is a pangram (contains all 26 alphabets at least once)

using a for loop.

```
alp = input("Enter the alphabets:").lower()
for chr in "abcdefghijklmnopqrstuvwxyz":
 if(chr not in alp):
     print("alphabets is not present in chr")
     break
else:
    print("alphabets is present in chr")
```

#6 Write a program using a for loop to print all twin primes between 1 and 100. (Twin primes: pairs of prime

numbers with a difference of 2, e.g., (3,5), (11,13)).

```
for num in range(2,99):
    for i in range(2,int(num**0.5)+1):
        if(num%i==0):
            break
    else:
        for j in range(2,int(((num+2)**0.5)+1)):
```

```
        if((num+2)%j==0):
            break
    else:
        print(f"({num},{num+2})")
```

#7 Write a program that accepts a number from the user and prints whether it is a Harshad number (number

divisible by the sum of its digits) using a for loop.

```
num = int(input("Enter the number:"))
digit_sum = 0
for d in str(num):
    digit_sum = digit_sum + int(d)
    if(num%digit_sum==0):
        print(f"number: {num} is Harshad no.")
        break
    else:
     print(f"number: {num} is not Harshad no.")
```

#8 Write a program using a for loop to display the sum of the series:

12 + 22 + 32 + ... + n2

```
num = int(input("Enter the number:"))
digit_sum = 0
for i in range(1,num+1):
 digit_sum += i**2
print("sum of the series:",digit_sum)
```

#9 Write a program using a while loop to find the reverse of a number and check if the reversed number is

prime. Example: Input = 73 → Reverse = 37 → Prime.

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

```
rev = 0
while num>0:
    digit = num%10
    rev = rev*10 + digit
    num = num// 10
print(f"reverse is {rev}")
if(rev<2):
    print(f"{rev} is not prime number")
else:
    for i in range(2,int((rev**0.5)+1)):
        if(rev%i==0):
            print(f"{rev} is not prime")
            break
    else:
        print(f"{rev} is prime")
```

#10 Write a program that continues to accept numbers from the user until the sum of digits of all numbers

entered becomes greater than 100.

```
#num = int(input("Enter the number:"))
total_sum = 0
while total_sum<=100:
     num = int(input("Enter the number:"))
     digit_sum = 0
     for d in str(num):
       digit_sum += int(d)
     total_sum += digit_sum
     print(f"sum of digits{num} = {digit_sum} ,total = {total_sum}")
print(f"total sum is exceed of 100:{total_sum}")
```

#11 Write a program using a while loop to find the largest prime factor of a given number.

```
num = int(input("Enter the number:"))
factor = 2
largest = 1
while (num > 1):
   if(num%factor==0):
      largest = factor
      num = num//factor
   else:
      factor = factor+1
print(f"largest prime factor {num} is {factor} ")
```

Name: Juhi Bano

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Batch: 5

Batch Time: 10:30 – 12:10

Conditional statement-

# question 1 - write a program to check wheather the number is possitive, negative or zero

#sol.-

```
num = int(input("Enter the number:"))
if(num>=1):
   print(f"the number: {num} is possitive")
elif(num<0):
   print(f"the number: {num} is negative")
elif(num==0):
```

```
    print(f"the number: {num} is equal to zero")
else:
    print("the number in not valid")



#2write a program to check wheather number is even or odd
#sol.-
num = int(input("Enter the number:"))
if(num%2==0):
    print(f"the number: {num} is even")
else:
    print(f"the number {num} is odd")



#3write a program to ckeck the year is leap or not
#sol.-
y = int(input("Enter the year:"))
if(y%4==0 or y%100==0  and y%400):   #Agar 400 se divisible hai → Leap year hai
                                #Agar 100 se divisible hai (par 400 se nahi) → Leap year nahi hai
   print(f"The year: {y} is leap")   #Agar 4 se divisible hai (aur 100 se nahi) → Leap year hai
else:
    print(f"The year:{y} is not leap yar") #Baaki sab → Leap year nahi hai'''



#4write a program to find gretest of two numbers
#sol.-
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
if(num1>num2):
    print(f"The number1: {num1} is gretest")
else:
```

```
    print(f"The number2: {num2} is grete")



#5write a proram to check wheather the person is eligible for vote(age>=18
#sol.-
age = int(input("Enter your age:"))
if(age>=18):
    print("the person is eligible for vote")
else:
    print("the person is not eligible for vote")

#6write a program to check wheather the given character is vowel pr consonamat
#sol.-
#char = ('a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t','u','v','w','x','y','z')
char = input("Enter the character:")
Vowel = ('a','e','i','o','u')
if(char in  Vowel):
    print(f"The given charater:{char} is vowel")
else:
    print(f"The given character : { char} is consonant")

#7write a program to check if a  number is divisible by 5
#sol.-
a = int(input("Enter the number:"))
if(a%5==0):
    print(f"The number: {a} is devisible by 5")
else:
    print(f"The number: {a} is not devisible by 5")



#8write a program to check wheather given number is one digit. two digit or more than one digit
```

```
#sol.-
n = int(input("Enter the number:"))
num = abs(n) # take absalute value to ignore minus sigh
if(num<10):
   print(f"The given number:{num} is sinle didgit")
elif(num<100):
   print(f"The given number:{num} is two digit")
else:
   print(f"The given number:{num} is more than two digit")



#9 write a program to check wheather a student is pass or fail(passing marks=40)
#sol.-
m = int(input("Enter the marks:"))
if(m>=40):
   print(f"marks:{m} student is pass (very good)")
else:
   print(f"marks: {m} student is fail (try again)")'''

#10 write a program to find wheather the entered number is multiple of both 3 and 7
#sol.-
num = int(input("Enter the number:"))
if(num%3==0 and num%7==0):
   print(f"The entered number:{num} is multiple of both(3 and 7)")
else:
   print(f"The entered numver:{num} is not multiple of both(3 and 7)")
#1 write a program to find largest among three number
#sol. –
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
num3 = int(input("Enter the number3:"))
```

```
if(num1>num2 and num1>num3):
    print(f"Entered number:{num1} is largest")
elif(num2>num1 and num2>num3):
    print(f"Entered number:{num2} is largest")
else:
    print(f"Entered number:{num3} is largest")
```

#2 write a program to check age based: child(<13), teenage(13-19) ,adult(20-59), senior(60+)

#sol.-

```
age = int(input("Enter the age:"))
if(age<=13):
    print(f"Child, the age is :{age} ")
elif(age>13 and age<20):
    print(f"teenage, the age is:{age}")
elif(age>=20 and age<60):
    print(f"Adult, the age is:{age}")
else:
    print(f"Senior, the age is:{age}")
```

#3 write a program to asigh grade based on marks

90-100: A,

75-89: B,

50-74: C,

35-49: D,

<35: Fail

#sol.-

```
m = int(input("Enter your marks:"))
if(m>=90):
    print(f"your marks is:{m} and grade 'A'")
```

```
elif(m<90 and m>=75):
   print(f"your marks is:{m} and grade 'b'")
elif(m<75 and m>=50):
   print(f"your marks is:{m} and grade 'c' ")
elif(m<50 and m>=35):
   print(f"your marks is: {m} and grade 'd' ")
else:
   print(f"your marks is: {m} and you are fail ")

#4 Write a program to check the type of triangle (equilateral, isosceles, or scalene) based on sides.)
#sol.-
a = int(input("Enter the number:"))
b = int(input("Enter the number:"))
c = int(input("Enter the number:"))
#if(a+b>c and a+c>b and b+c>a): # this condition appply for rule of triangle
if(a==b==c):
      print("given number's of triangle is equilateral")
elif(a==b or a==c or b==c):
   print("given number's of triangle is isosceles")
else:
   print("given number's of triangle is scalene")



#5 Write a program to check if a character is uppercase, lowercase, digit, or special symbol.
 #sol.-
chr = input("Enter the character:")
if(chr.isupper()):
   print(f"the entered character is:{chr} in uppercase")
elif(chr.islower()):
   print(f"the entered character is :{chr} in lowercase")
elif(chr.isdigit()):
```

```
    print(f"the entered character is :{chr} in digits")
else:
    print(f"the entered character is : {chr} in special type of symbol")
```

#6 Write a program to calculate electricity bill based on units:

Up to 100 units:  5 per unit,

101–200 units:  7 per unit,

Above 200 units:  10 per unit

#sol.-

```
unit = int(input("Enter utis for find electricty bill:"))
if(unit<=100):
    print(f"per units based on electricty bill is :{unit*5}")
elif(unit>=101 and unit<200):
    print(f"per units based on electricity bill is: {((100*5)+((unit-100))*7)}")
elif(unit>=200):
    print(f"per units based on electricity bill is: {(((100*5)+(100*7))+(unit-200)*10)}")
```

#7 Write a program to determine the largest of four numbers using nested if.

#sol.-

```
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
num3 = int(input("Enter the number3:"))
num4 = int(input("Enter the number4:"))
if(num1>num3 and num1>num3 and num1>num4):
    print(f"the largest number is:{num1}")
elif(num2>num1 and num2>num3 and num2>num4):
    print(f"the largest number is:{num2}")
elif(num3>num1 and num3>num2 and num3>num4):
    print(f"the largest number is:{num3}")
else:
```

```
    print(f"the largest number is:{num4}")


# by using neste if
num1 = int(input("Enter the number1:"))
num2 = int(input("Enter the number2:"))
num3 = int(input("Enter the number3:"))
num4 = int(input("Enter the number4:"))
if(num1>num2):
    if(num1>num3):
        if(num1>num4):
            largest = num1
        else:
            largest = num4

    else:
        if(num2>num3):
            if(num2>num4):
                largest = num2
            else:
                largest = num4
        else:
            if(num3>num4):
                largest = num3
            else:
                largest = num4

print(f"the largest number is:{largest}")
```

#8 Write a program to check if a given year is a century year and also a leap year.

#sol.-

```
y = int(input("Enter the year:"))
if(y%100==0):
    if(y%400==0):
     print(f"the entered year:{y} is a century year and also a leap year")
    else:
      print(f"The entered year:{y} is century year but not leap year")
else:
   if( y%4==0):
     print(f"The entered year:{y} is leap year but not century year")
   else:
     print(f"The entered year:{y} is not century yaer and not leap year")
```

#9 Write a program to classify BMI value: Underweight (<18.5), Normal (18.5-24.9), Overweight (25-29.9),

obese(30+)

#sol.-

```
val = float(input("Enter the BMI value:"))
if(val<18.5):
    print(f"BMI value is underweight:{val}")
elif(val>=18.5 and val<=24.9):
    print(f"BMI value is normal:{val}")
elif(val>=25 and val<=29.9):
   print(f"BMI value is overweight:{val}")
else:
   print(f"BMI value is obese:{val}")'''
```

#10 Write a program to display the smallest number among three using nested if.

#sol.-

```
n1 = int(input("Enter the number1:"))
n2 = int(input("Enter the number2:"))
n3 = int(input("Enter the number3:"))
if(n1<n2):
   if(n1<n3):
      smallest = n1
   else:
      smallest = n3
else:
   if(n2<n3):
      smallest = n2
   else:
      smallest = n3
print(f"the smallest number is:{smallest}")
```

Loops-

#1 write a program using a for loop to print all Armstrong numbers between 100 and 999. (Armstrong number: in python

sum of cubes of digits equals the number itself. Example: 153 => 13+53+33 = 153).

#sol.-

```
for num in range(100,1000):
   d1 = num//100 #we use for find for first digit
   d2 = (num//10)%10 # we use for find second digit
   d3 = num%10 #we use for find third dijit
   if(num==d1*3 + d23 + d3*3):
    print(num)
```

#2 Write a program to generate and display the first n prime numbers using a for loop.

```
n = int(input("Enter the number:"))
for i in range(2,n):
```

```
    if(n%i==0):
        print(f"{n} number is not prime")
        break
else:
    print(f"{n} number is prime")
```

#3 Write a program to display all numbers from 1 to 500 that are divisible by 3, but the sum of their digits

should not exceed 10.

```
for i in range(1,501):
    if(i%3==0):
        digit_sum = sum(int(d) for d in str(i))
        if(digit_sum<=10):
          print(i)
```

#4 Write a program using a for loop to print a pyramid of stars (*) of height n. Example for n=4:

```
   *
  ***
 *****
*******
n = int(input("Enter the number:"))
for i in range(1,n+1):
    print(" "*(n-i), end=" ")
    print(""(2*i-1))
```

#5 Write a program to accept a string and check whether it is a pangram (contains all 26 alphabets at least once)

using a for loop.

```
alp = input("Enter the alphabets:").lower()
```

```
for chr in "abcdefghijklmnopqrstuvwxyz":
 if(chr not in alp):
     print("alphabets is not present in chr")
     break
else:
   print("alphabets is present in chr")
```

#6 Write a program using a for loop to print all twin primes between 1 and 100. (Twin primes: pairs of prime

numbers with a difference of 2, e.g., (3,5), (11,13)).

```
for num in range(2,99):
   for i in range(2,int(num**0.5)+1):
      if(num%i==0):
         break
   else:
      for j in range(2,int(((num+2)**0.5)+1)):
         if((num+2)%j==0):
            break
      else:
         print(f"({num},{num+2})")
```

#7 Write a program that accepts a number from the user and prints whether it is a Harshad number (number

divisible by the sum of its digits) using a for loop.

```
num = int(input("Enter the number:"))
digit_sum = 0
for d in str(num):
   digit_sum = digit_sum + int(d)
   if(num%digit_sum==0):
      print(f"number: {num} is Harshad no.")
```

```
        break
    else:
     print(f"number: {num} is not Harshad no.")
```

#8 Write a program using a for loop to display the sum of the series:

12 + 22 + 32 + ... + n2

```
num = int(input("Enter the number:"))
digit_sum = 0
for i in range(1,num+1):
 digit_sum += i**2
print("sum of the series:",digit_sum)
```

#9 Write a program using a while loop to find the reverse of a number and check if the reversed number is

prime. Example: Input = 73 → Reverse = 37 → Prime.

```
num = int(input("Enter the number:"))
rev = 0
while num>0:
    digit = num%10
    rev = rev*10 + digit
    num = num// 10
print(f"reverse is {rev}")
if(rev<2):
    print(f"{rev} is not prime number")
else:
    for i in range(2,int((rev**0.5)+1)):
        if(rev%i==0):
            print(f"{rev} is not prime")
            break
    else:
```

```
        print(f"{rev} is prime")
```

#10 Write a program that continues to accept numbers from the user until the sum of digits of all numbers

entered becomes greater than 100.

```
#num = int(input("Enter the number:"))
total_sum = 0
while total_sum<=100:
    num = int(input("Enter the number:"))
    digit_sum = 0
    for d in str(num):
      digit_sum += int(d)
    total_sum += digit_sum
    print(f"sum of digits{num} = {digit_sum} ,total = {total_sum}")
print(f"total sum is exceed of 100:{total_sum}")
```

#11 Write a program using a while loop to find the largest prime factor of a given number.

```
num = int(input("Enter the number:"))
factor = 2
largest = 1
while (num > 1):
   if(num%factor==0):
       largest = factor
       num = num//factor
   else:
       factor = factor+1
print(f"largest prime factor {num} is {factor} ")
```