Q1. Write A Python Program To Find The Distance Between Two Points

```
import math

# Program To Find Distance Between Two Points

def main():

    # Accept First Point Co-Ordinates
    print("Enter The First Point Coordinates")
    x1=float(input("X1:"))
    y1=float(input("Y1:"))

    # Accept Second Point Co-Ordinates
    print("Enter The Second Point Coordinates")
    x2 = float(input("X2:"))
    y2 = float(input("Y2:"))

    # Calculate Distance Between Two Points
    distance = math.sqrt((x2-x1)*(x2-x1)+(y2-y1)*(y2-y1))

    # Display Output To The User
    print("The Distance Of Line Joining The Given Coordinates Is {} Units".format(distance))

main()
```

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Q2. Write A Python Program To Calculate Area Of A Circle

```
# Program To Find Area Of A Circle

import math

# Accepting Radius From The User
radius = float(input("Enter The Radius Of The Circle: "))

# Calculate Area Of Circle
areacircle = math.pi * radius * radius

# Display Output To The User
print("The Area Of Circle With Radius {} Is {} Units".format(radius, areacircle))
```

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Q3. Write A Program To Find Digit At Ones Place Of A Number

```
# Program To Find Digit At Ones Place Of A Number

# Accept Number From A User
number = int (input ("Enter A Number: "))

# Logic To Find Out Digit At One's Place
print("The Digit At One's Place Of The Given Number {} Is {}".format(number, number%10))
```

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Q4. Write A Python Program To Find Area Of Triangle By Herons Formula.

```
import math
a=float(input("Enter The Length Of First Side Of Triangle\n"))
b=float(input("Enter The Length Of Second Side Of Triangle\n"))
c=float(input("Enter The Length Of Third Side Of Triangle\n"))

s=(a+b+c)/2

area=math.sqrt(s*(s-a)*(s-b)*(s-c))

print("The Area Of A Triangle Having Side Dimensions",a,b,"And",c,"Is",area,"Units")
```

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Q5. Write A Program To Find Largest Of 3 Numbers.

```
# Program To Find The Maximum Of 3 Numbers

# Accept 3 Numbers From User
num1 = float(input("Enter First Number: "))
num2 = float(input("Enter Second Number: "))
num3 = float(input("Enter Third Number: "))

# Logic To Calculate Maximum Of 3 Numbers
if num1>num2 and num1>num3:
   print("{} Is The Maximum Of {},{},{}".format(num1, num1, num2, num3))
elif num2>num1 and num2>num3:
   print("{} Is The Maximum Of {},{},{}".format(num2,num1, num2, num3))
else:
   print("{} Is The Maximum Of {},{},{}".format(num3, num1, num2, num3))
```

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Q6. Write A Program To Convert Faranheit To Celsuis.

```
# Program To Convert Faranheit To Celsuis

#Accept Faranheit Temperature From User
fhnt = float(input("Enter The Temperature In Faranheit: "))

# Convert To Celsius
clus = ((fhnt-32)*5)/9

print("{} Units In Farenhite Equals {:.15f} Celsius Units".format(fhnt,clus))
```

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Q7. Write A Program To Print Value Of 2^(2N+1) For Given Value Of N

```
# Program To Print Value Of 2^(2N+1) For Given Value Of N

n = int (input("Enter The Value Of N: "))
print("Value Of 2^(2N+1): {}".format(pow(2,((2*n)+1))))
```

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Q8. Write A Program To Perform Simple Computation

```
# Program To Perform Simple Computation

print("Result 1: ", 7.7//7)
print("Result 2: ", (200-70)*10/5)
print("Result 3: ", 5*1**2)
print("Result 4: ", -11%9)
```

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Q9. Write A Program To Check Whether A Number Is Positive, Negative Or Zero.

```
# Program To Check Whether A Number Is Positive, Negative Or Zero.

def numbercheck(num):
    if num > 0:
        return 'Positive'
```

```
    elif num < 0:
        return 'Negative'
    else:
        return 'Zero'

number = int (input ("Enter A Number: "))
print('Number Is {}'.format(numbercheck(number)))
```

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Q10. Write A Program To Check Voters Eligibility

```
# Program To Check Voters Eligibility

def voter(age):
    if age >= 18:
        return 'Eligible'
    else:
        return 'Not Eligible'

age = int (input('Enter The Age Of The Person: '))
print('The Person Is {} For Voting'.format(voter(age)))
```

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Q11. Write A Program To Check Whether A Year Is A Leap Year Or Not

```
# Program To Check Whether A Year Is A Leap Year Or Not

def leapyear(year):
    return (((year % 4 == 0) and (year % 100 != 0)) or (year % 4 ==0))

year = int (input("Enter A Year: "))
if leapyear(year):
    print('{} Is A Leap Year'.format(year))
else:
    print('{} Is Not A Leap Year'.format(year))
```

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Q12. Write A Program To Find Roots Of A Quadratic Equation

```
# Program To Find Roots Of A Quadratic Equation

import cmath

print ("The Quadratic Equation Is Of The Form: Ax^2 + Bx + C, Where A, B And C Are Constants.")
```

```
a = int (input("Enter The Value Of A: "))
b = int (input("Enter The Value Of B: "))
c = int (input("Enter The Value Of C: "))

temp = cmath.sqrt((b*b)-(4*a*c))

x = (-b + temp) / ( 2 * a )
y = (-b - temp) / ( 2 * a )

print('X = {} \nY = {}'.format(x,y))
```

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Q13. Write A Program To Simulate A Simple Calculator

```
# Program To Simulate A Simple Calculator

def calculator():
    print("Welcome!")
    print("Enter 1: Addition")
    print("Enter 2: Subtraction")
    print("Enter 3: Multiplication")
    print("Enter 4: Division")
    print("Enter 5: Quit")
    choice = int(input("Enter Your Choice: "))
    if 0 < choice < 6:
        if choice == 1:
            n1 = float(input("Enter First Operand: "))
            n2 = float(input("Enter Second Operand: "))
            res = n1 + n2
            print(n1, "+", n2, "=", res)
        elif choice == 2:
            n1 = float(input("Enter First Operand: "))
            n2 = float(input("Enter Second Operand: "))
            res = n1 - n2
            print(n1, "-", n2, "=", res)
        elif choice == 3:
            n1 = float(input("Enter First Operand: "))
            n2 = float(input("Enter Second Operand: "))
            res = n1 * n2
            print(n1, "*", n2, "=", res)
        elif choice == 4:
            n1 = float(input("Enter First Operand: "))
            n2 = float(input("Enter Second Operand: "))
            try:
                res = n1 / n2
                print(n1, "-", n2, "=", res)
            except:
                print("Syntax Error")
        else:
```

```
        print("Thank You! The Program Will Quit")
        exit(0);
    else:
        print("Invalid Input Entered.. Please Try Again")

while True:
    calculator()
```

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Q14. Write A Program To Find The Best Of Two Test Average Marks

```
#Program to find the best of two test avg marks

s1=int(input("Enter first test marks\n"))
s2=int(input("Enter second test marks\n"))
s3=int(input("Enter third test marks\n"))

if s1<s2 and s1<s3:
 avg=(s2+s3)/2
elif s2<s1 and s2<s3:
 avg=(s1+s3)/2
else:
 avg=(s1+s2)/2

print("The Best Of Two Test Average Marks Are: ",avg)
```

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Q15. Write A Program To Check The Quadrant In Which The Co-Ordinate Lies

```
# Program To Check The Quadrant In Which The Co-Ordinate Lies
import sys

def coordinate(x,y):
    if x >= 0 and y >= 0:
        print("({},{}) Lies In First Quadrant".format(x,y))
    elif x <= 0 and y >=0:
        print("({},{}) Lies In Second Quadrant".format(x, y))
    elif x <= 0 and y <= 0:
        print("({},{}) Lies In Third Quadrant".format(x, y))
    else:
        print("({},{}) Lies In Fourth Quadrant".format(x, y))

x_pos = int (input("Enter The X Co-Ordinate (0-90): "))
y_pos = int (input("Enter The Y Co-Ordinate (0-90): "))
```

```
if x_pos >= 90 or x_pos <= 90:
   print("Invalid X Co-Ordinate Entered. Program Will Quit")
   sys.exit()
elif y_pos >= 90 or y_pos <= 90:
   print("Invalid Y Co-Ordinate Entered. Program Will Quit")
   sys.exit()

coordinate(x_pos,y_pos)
```

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Q16. Write A Program To Detect The Type Of Triangle

```
# Program To Detect The Type Of Triangle

def TriangleType(s1, s2, s3):
   if s1 == s2 and s2 == s3 and s3 == s1:
      return 'The Given Triangle Is Equilateral Triangle'
   elif s1 != s2 and s2 != s3 and s3 != s1:
      return 'The Given Triangle Is Scalene Triangle'
   else:
      return 'The Given Triangle Is Isosceles Triangle'


s1 = float(input("Enter The Length Of Side1 Of Triangle: "))
s2 = float(input("Enter The Length Of Side2 Of Triangle: "))
s3 = float(input("Enter The Length Of Side3 Of Triangle: "))

print(TriangleType(s1,s2,s3))
```

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Q17. Write A Program To Check Whether The Character Entered Is A Vowel Or Character

```
# Program To Check Whether The Character Entered Is A Vowel Or Character

import sys

def check(ch):
   if len(ch) > 1:
      print("Invalid Input Entered. Program Will Terminate")
      sys.exit()
   else:
      if ch == 'A' or ch == 'E' or ch == 'I' or ch == 'O' or ch == 'U' or ch == 'a' or ch == 'e' or ch == 'i' or ch == 'o' or c
h == 'u':
```

```
        print("{} Is A Vowel".format(ch))
    else:
        print("{} Is A Character Other Than Vowel".format(ch))

  return " "


ch = input("Enter A Single Character: ")
print(check(ch))
```

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Q18. Write A Program To Print First 10 Numbers

```
# Program To Print First 10 Numbers

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

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Q19. Write A Program For Making A Countdown To Zero From A Given Number

```
# Program For Countdown To Zero

def countdown(num):
  print("The Countdown Begins From {} To O".format(num))
  while num >= 0:
    print(num)
    num -= 1

num = int(input("Enter The Value Of N: "))
countdown(num)
```

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Q20. Write A Program To Find The Sum And Average Of First 10 Numbers.

```
# Program To Find The Sum And Average Of First 10 Numbers
```

```
total = 0
avg = 0

for i in range(1,11):
 total+=i

print("Sum: ", sum)
print("Average: ", sum/10)
```

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Q21. Write A Program To Find Sum Of A Given Range

```
# Program To Find Sum Of A Given Range

def sum_range(ll,ul):
    total = 0
    for i in range(ll, ul+1):
        total += i
    print("The Sum Of Numbers In The Range {} And {} Is {}".format(ll,ul,total))

ll = int(input("Enter The Lower Limit: "))
ul = int(input("Enter The Upper Limit: "))
sum_range(ll,ul)
```

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Q22. Write A Program To Reverse A Number

```
# Program To Reverse A Number
num = int(input("Enter A Number: "))

reversenum = 0

while(num>0):
  remainder = num % 10
  reversenum = (reversenum * 10) + remainder
  num = num//10

print("Reverse Number: {}".format(reversenum))
```

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Q23. Write A Program To Check Whether A Number Is An Armstrong Number Or Not.

```
# Program To Check Whether A Number Is An Armstrong Number Or Not

def armstrong(n):
   temp=n
   sum=0
   while(n!=0):
      digit=n%10
      sum=sum+digit*digit*digit
      n=n//10
   if(sum==temp):
      return 1
   else:
      return 0

n=(int(input("\nEnter A Number\n")));

res=armstrong(n)

if(res==1):
   print(n," Is An Armstrong Number\n")
else:
   print(n," Isnt An Armstrong Number\n")
```

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Q24. Write A Program To Print (1-10) Using For Loop And While Loop.

```
# Program To Print (1-10) Using For Loop And While Loop.

for i in range (1,11):
 print(i)

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

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Q25. Write A Program To Print Sum Upto Value Of N Entered By The User

```
# Program To Print Sum Upto Value Of N Entered By The User
def sum():
    n = int(input("Enter The Limit Upto Which You Wish To Find The Sum: "))
    summation = (n * (n + 1)) / 2
    print("Summation Upto N Is ", summation)


def main():
    sum()

main()
```

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Q26. Write A Program To Find Factorial Of A Number

```
# Program To Find Factorial Of A Number
def fact(n):
    if(n==0):
        return 1
    return fact(n-1)*n

a=int(input("Enter The Number Whose Factorial Is To Be Found Out\n"))

res=fact(a)

print("The Factorial Of ",a," Is ",res)
```

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Q27. Write A Program To Create Multiplication Table For A Number From 1 TO 10.

```
# Program To Create Multiplication Table For A Number From 1 TO 10


n = int(input("Enter A Number"))

for i in range(1,11):
 print(n, "*", i, "=", n*i)
```

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Q28. Write A Program To Find Sum Of All Numbers Divisble By 3

```
# Program To Find Sum Of All Numbers Divisble By 3
def create_list(ls,n):
    total = 0
    while True:
        x = int(input())
        ls.append(x)
        if len(ls) == n:
            break

    for i in ls:
        if i % 3 == 0:
            total += i

    print("Sum Of All Numbers Divisible By 3 In The Given List Is: ", total)

n = int(input("Enter The Value Of N: "))
ls = []
create_list(ls,n)
```

****

Q29. Write A Program That Keeps Accepting Input Until It Counts Sum Of 5 Numbers. Also Print The Sum Of Such 5 Numbers.

```
#  Program That Keeps Accepting Input Until It Counts Sum Of 5 Numbers. Also Print The Sum Of Such 5 Numbers.

def create_list(ls):
    total = 0
    count = 0
    while True:
        x = int(input())
        ls.append(x)
        total += x
        count += 1
        if count == 5:
            break

    print("Sum Values: ", total)

print("Enter Values Into The List")
ls = []
create_list(ls)
```

****