1) **Write Python Program (WPP) to enter length and breadth of a rectangle and calculate area and perimeter of the rectangle**.

Code:

```
l = int(input("Enter Length: "))
w = int(input("Enter width: "))
area = l*w
perimeter = 2*(l+w)
print(f"Area = {area}\nPerimeter = {perimeter}")
```

Output:

```
Enter Length: 10
Enter width: 20
Area = 200
Perimeter = 60
```

2) **WPP to enter radius of circle and calculate area and circumference of circle.**

Code:

```
pi = 3.14
r = int(input("Enter Radius: "))
c = 2*pi*r
a = pi*r**2
print(f"Area = {a}\nCircumference = {c}")
```

Output:

```
Enter Radius: 3
Area = 28.26
Circumference = 18.84
```

3) **WPP to enter value in centimetre and convert it to meter and kilometre.**

Code:

```
length = int(input("Enter length in centimeter: "))
print(f"Length(KM) : {length / 1000}")
```

Output:

```
Enter length in centimeter: 1000
Length(KM) : 1.0
```

4) **WPP to enter value in Celsius and convert it to Fahrenheit.**

Code:

```
temp = float(input("Enter temperature in Fahrenheit: "))
temp = (5/9)*(temp-32.0)
print(f"Temperature in Celsius: {temp}")
```

Output:

```
Enter temperature in Fahrenheit: 98.6
Temperature in Celsius: 37.0
```

5) **WPP to enter value in days and convert in form of years, months and days (assuming all month has 30 days and year is of 360).**
eg: input is 400 so output should be 1 year 1 month and 10 days.
Code:

```
days = int(input("Enter Days: "))
year = int(days/360)
days = days - (year*360)
month = int(days/30)
rem_day = days % 30
print(f"{year} years {month} months {rem_day} days")
```

Output:

```
Enter Days: 400
1 years 1 months 10 days
```

6) **WPP to find power of any number in form of x^y where x and y are user inputs.**
Code:

```
x = int(input("Enter a Number: "))
y = int(input("Enter a Number: "))
print(f"x^y = {x**y}")
```

Output:

```
Enter a Number: 2
Enter a Number: 3
x^y = 8
```

7) **WPP to enter 2 angles and using function thirdangle(angle1, angle2) calculate third angle.**
Code:

```
def thirdangle(a1,a2):
   return 180.0 - a1 - a2
angle1 = float(input("Enter First Angle: "))
angle2 = float(input("Enter Second Angle: "))
print(f"Third Angle: {thirdangle(angle1,angle2)}")
```

Output:

```
Enter First Angle: 60
Enter Second Angle: 45.3
Third Angle: 74.7
```

8) **WPP to enter base and height of triangle and calculate area of triangle.**
Code:

```
base = int(input("Enter Base: "))
height = int(input("Enter Height: "))
print(f"Area Of triangle is {0.5 * height * base}")
```

Output:

```
Enter Base: 2
Enter Height: 2
Area Of triangle is 2.0
```

9) WPP to enter marks of 5 subjects and find the mean of 5 subjects, calculate percentage. If percentage is less than 35 print fail else print pass.

Code:

```
s = 0
for i in range(5):
    s = s + int(input(f"Enter Marks of Subject{i+1}: "))
mean = s / 5
if mean < 35.0:
    print("Fail")
else:
    print("Pass")
```

Output:

```
Enter Marks of Subject1: 1
Enter Marks of Subject2: 1
Enter Marks of Subject3: 1
Enter Marks of Subject4: 1
Enter Marks of Subject5: 1
Fail
```

10) WPP to enter principal amount, time and interest rate. Create simple_interest(principal, time, rate) function to calculate simple interest.

Code:

```
def simple_interest(principle, time, rate):
    return principle * rate * time / 100
p = float(input("Enter principle Amount: "))
r = float(input("Enter Annual interest rate: "))
t = float(input("Enter time in years: "))
print(f"Simple Interest = {simple_interest(p,t,r)}")
```

Output:

```
Enter principle Amount: 2000
Enter Annual interest rate: 10
Enter time in years: 1
Simple Interest = 200.0
```

11) WPP to enter principal amount, time and interest rate. Create compound_interest(principal, time, rate) function to calculate compound interest.

Code:

```
def compound_interest(principle, time, rate):
    amount = principle * ((1 + rate/100) ** time - 1)  # taken n = 1
    return amount
p = float(input("Enter principle Amount: "))
r = float(input("Enter Annual interest rate(%): "))
t = float(input("Enter time in years: "))
print(f"Simple Interest = {compound_interest(p, t, r)}")
```

Output:

```
Enter principle Amount: 5000
Enter Annual interest rate(%): 5
Enter time in years: 10
Simple Interest = 3144.47313388721
```

12) Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn.

Sample value of n is 5

Expected Result : 155

Code:

```
n = int(input("Enter a Number: "))
print(f"Answer = {n + n * n + n ** 3}")
```

Output:

```
Enter a Number: 5
Answer = 155
```

13) Write a Python program to find whether a given number (accept from the user) is even or odd, print out an appropriate message to the user.

Code:

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

Output:

```
Enter a number: 12
12 is even.
```

14) Write a Python program to count the number 4 in a given list. Note use the given list arr = (1, 3, 4, 5, 3, 24, 2, 4, 5, 2, 222, 32, 4, 10, 3, 4, 50, 100, 4).

Code:

```
arr = [1, 3, 4, 5, 3, 24, 2, 4, 5, 222, 2, 32, 4, 10, 3, 4, 50, 100, 4]
print(f"4 has accrued {arr.count(4)} times.")
```

Output:

```
4 has accrued 5 times.
```

15) **Write a Python program to test whether a passed letter is a vowel or not using vowel(character) function.**

Code:

```
char = input("Enter a character: ").lower()
if char == 'a' or char == 'e' or char == 'i' or char == 'o' or char =='u':
   print(f"{char} is vowel.")
else:
   print(f"{char} is consonant.")
```

Output:

```
Enter a character: c
c is consonant.
```

16) **Write a Python program to concatenate all elements in a list into a string and return it using function.**

Code:

```
def list_to_string(ls):
   temp = str(ls)
   return temp
ls = [10, 20, 30, 40]
temp = list_to_string(ls)
print(f"List has {temp} and the type of it is {type(temp)}.")
```

Output:

```
List has [10, 20, 30, 40] and the type of it is <class 'str'>.
```

17) **Write a Python program to print all even numbers from a given numbers list in the same order and stop the printing if any numbers that come after 27 in the sequence. numbers = (33, 2, 5, 12, 23, 55, 6, 78, 9, 27, 56, 7, 89, 4).**

Code:

```
numbers = [33, 2, 5, 12, 23, 55, 6, 78, 9, 27, 56, 7, 89, 4]
for num in numbers:
   if num % 2 == 0:
      if num <= 27:
         print(num)
      else:
         break
```

Output:

```
2
12
6
```

18) **Write a Python program to compute the greatest common divisor (GCD) of two positive integers. Note both numbers will be user input.**

Code:

```
def compute_gcd(x, y):
    while y:
        x, y = y, x % y
    return x
if __name__ == '__main__':
    x = int(input("Enter a number: "))
    y = int(input("Enter a number: "))
    print(f"GCD = {compute_gcd(x, y)}")
```

Output:

```
Enter a number: 60
Enter a number: 48
GCD = 12
```

19) Write a Python program to get the least common multiple (LCM) of two positive integers. Note both numbers will be user input.

Code:

```
import que18
def compute_lcm(x, y):
    return ((x * y) / que18.compute_gcd(x, y))
x = int(input("Enter a number: "))
y = int(input("Enter a number: "))
print(f"LCM = {compute_lcm(x, y)}")
```

Output:

```
Enter a number: 60
Enter a number: 48
LCM = 240.0
```

20) Write a Python program to compute the distance between the points (x1, y1) and (x2, y2). Note both coordinates will be user input.

Code:

```
import math
x1 = int(input("Enter x1: "))
x2 = int(input("Enter x2: "))
y1 = int(input("Enter y1: "))
y2 = int(input("Enter y2: "))
distance = math.sqrt((x2-x1)**2 + (y2-y1)**2)
print(f"Distance = {distance}")
```

Output:

```
Enter x1: 4
Enter x2: 6
Enter y1: 0
Enter y2: 6
Distance = 6.324555320336759
```

21) Write a python program to sum of the first n positive integers. Note n will be defined by user.

Code:

```
n = int(input("Enter a number: "))
sum1 = 0
for i in range(1,n):
   sum1 = sum1 + i
print(f"Sum of first {n} numbers is {sum1}.")
```

Output:

```
Enter a number: 4
Sum of first 4 numbers is 6.
```

22) Write a Python program to find factorial of any number defined by user.

Code:

```
n = int(input("Enter a number: "))
fact = 1
for i in range(2,n+1):
   fact = fact * i
print(f"{n}! = {fact}")
```

Output:

```
Enter a number: 5
5! = 120
```

23) Write a Python program to calculate the hypotenuse of a right angled triangle.

Code:

```
a = int(input("Enter a number: "))
b = int(input("Enter a number: "))
h = (a**2 + b**2)**0.5
print(f"Hypotenuse = {h}")
```

Output:

```
Enter a number: 3
Enter a number: 4
Hypotenuse = 5.0
```

24) Write a Python program to calculate the sum of the digits in an integer.

Code:

```
num = int(input("Enter a number: "))
s = 0
while num:
   s += num % 10
   num =int(num/10)
print(f"Sum of digits in number is {s}.")
```

Output:

```
Enter a number: 111
Sum of digits in number is 3.
```

25) Write a Python program to find number of prime numbers between 1 to n where n is defined by user.

Code:

```
def is_prime(num):
    if num == 1:
        return False
    for i in range(2, int((num/2)+1)):
        if num % i == 0:
            return False
        else:
            continue
    return True

if __name__ == '__main__':
    n = int(input("Enter a number: "))
    for i in range(1, n+1):
        if is_prime(i):
            print(f"{i} is a prime number.")
        else:
            print(f"{i} is not a prime number.")
```

Output:

```
Enter a number: 10
1 is not a prime number.
2 is a prime number.
3 is a prime number.
4 is not a prime number.
5 is a prime number.
6 is not a prime number.
7 is a prime number.
8 is not a prime number.
9 is not a prime number.
10 is not a prime number.
```