1. Write a python program to compute the following functions:
   $A = X^2 + Y^2$
   $B = A^2 + XY$
   $C = (A+B)^2$

2. Write a python program to compute the **area** and **Perimeter** of triangle it sides x=4, y=3, z=5.

3. Write a python program to find horizontal component and vertical component and for force =70N slope 45^0 From x-axis.

4. Write a python program to compute the real roots of a equation $AX^2 + BX + C = 0$. Your program should prompt user for values of A, B, C and use it compute X_1 and X_2

5. Write a python program to compute the **area** and **circumference** of circle. Your program should prompt user for the value of R.

6. Write a python program to read **name** and **age** of 6 student and compute the average of their age.

7. Write a python program to read 4 variables A, B, C and D then compute **arithmetic mean** and **geometric mean**.

8. Write a python program to compute the Summation (S) of values from 1 to 100 where: S = 1+2+3+…………100.

9. Write a python program to compute the Summation (S) of values from 1 to 100 where: S = $1^2 + 2^2 + 3^2 + …………+99^2 + 100^2$.

10. Write a python program to compute the Summation (S) of values from 1 to 100 where: S = $1^3 + 2^3 + 3^3 + …………+99^3 + 100^3$.s

11. Write a python program to compute the Summation (S) of values from 1 to 100 where: S = $1^3 \times 2^3 \times 3^3$ x ………… x $99^3 \times 100^3$.

12. Write a python program to compute the Summation (S) of values from 1 to 100 where: S = $1^3 \times 2^3 \times 3^3$ x ………… x $99^3 \times 100^3$.

13. Write a python program to compute the number of even numbers between 3 and 35

14. Write a python program to compute the number of even numbers between 3 and n

15. Write a python program to compute the number of odd numbers between 3 and 35

16. Write a python program to compute the number of odd numbers between 3 and n

17. Write a python program to compute the number of Prime numbers between 3 and 38

18. Write a python program to compute the number of Prime numbers between 3 and n

19. Write a program to compute S value where :S = 1 + 1/3 + 1/5 + 1/7 + 1/9 + 1/11 …………. + 1/n.

20. Write a program to compute S value where :S = 1 + 1/2 + 1/3 + 1/4 + 1/5 + 1/6 +…………. + 1/n.

21. Write a program to compute S value where :S = 1 + 1/2 + 1/4 + 1/6 + 1/8 + 1/10 +…………. + 1/n.

22. Write a python program accept input of any number then determine if the number is integer or not.

23. Write a python program accept input of any number then determine if the number is prime or not.

24. Write a python program accept input of any number then determine if the number is a float data type or not.

25. Write a program to compute A value: $\sqrt{A} = \sum_{x=1}^{x=10} \left| \frac{x^2 - 3X}{X + \cos^3 X} \right|$

26. Write a program to compute the sum and count of positive and negative numbers from list of (30) number.

27. Write a program to compute the sum and count of odd and even and summation of all values from list of (N) numbers.

28. Write a program to find y value from the equation y=X2 - 4X + 6 for X value from 0 - 10.

29. Write a python program to input 3 numbers then find the maximum number.

30. Write a python program to input 3 numbers then find the minimum number.

31. Write a python program to print the summation and multiplication of the numbers from 1 to 50.

32. Write a program to find the maximum value from list of given 10 numbers provided by the use.

33. Write a program to compute the summation of following series (use 20 term) S=1+ 1/2! + 1/3! + 1/4! + 1/5! + 1/6! + 1/7! ....

34. Using for loop, write a python program to print the figure below
```
*
*  *
*  *  *
*  *  *  *
*  *  *  *  *
```

35. Using for loop, write a python program to print the figure below
```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

36. Using for loop, write a python program to print the figure below
```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

37. Using for loop, write a python program to print the figure below
```
1 1 1 1 1
2 2 2 2
3 3 3
4 4
5
```

38. Using for loop, write a python program to print the figure below

```
5 5 5 5 5
5 5 5 5
5 5 5
5 5
5
```

39. Using for loop, write a python program to print the figure below

```
1
3 3
5 5 5
7 7 7 7
9 9 9 9 9
```

40. Using for loop, write a python program to print the figure below

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

41. Using for loop, write a python program to print the figure below

```
        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
```

42. Using for loop, write a python program to print the figure below

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

43. Write a python program that accept the string "My Name Is Tony" and print "My**Name**Is**Tony" using output formatting of a print() function

44. Write a python program to convert decimal number to octal using print() output formatting

45. Write a python to accept a list of 5 float numbers as an input from the user and compute the sum of their product.

46. Write a python program to Print multiplication table of a given number from a user.

47. Write a python program to accept 10 integer from user and print the numbers in descending number

48. Write a python program to accept 10 integer from user and print the numbers in ascending number

49. Write a python program that accept a string from user and print the index of each character in the string provided by the user

50. Write a python code to count all **lower case**, **upper case**, **digits**, and **special symbols** from a the string word = "2jj2n&334nnnGGHE)(nSlk/8HEnnnn"