Q1. Input distance (in km) and convert in meter, centimetre, and inches.

Program:

```
km = float(input("Enter distance in km: "))
meter = km * 1000
cm = km * 100000
inches = km * 39370.1
print("Distance in meters:", meter)
print("Distance in centimetres:", cm)
print("Distance in inches:", inches)
```

Output:

```
Enter distance in km: 22
Distance in meters: 22000.0
Distance in centimetres: 2200000.0
Distance in inches: 866142.2
```

Q2. Input 5 subject marks of a student and find total marks and percentage.

Program:

```
sub1 = int(input("Enter marks: "))
sub2 = int(input("Enter marks: "))
sub3 = int(input("Enter marks: "))
sub4 = int(input("Enter marks: "))
sub5 = int(input("Enter marks: "))
total_m = sub1 + sub2 + sub3 + sub4 + sub5
per = total_m / 5
print("Total marks of the student:", total_m)
print("percentage obtained by the student:", per
```

Output:

```
Enter marks: 65
Enter marks: 56
Enter marks: 54
Enter marks: 85
Enter marks: 96
Total marks of the student: 356
percentage obtained by the student: 71.2
```

Q3. Input principal, rate, time and calculate simple interest.

Program:

```
P = float(input("Enter Principal:"))
R = float(input("Enter Rate of Interest:
T = float(input("Enter Time:(year)"))

SI = (P * R * T)/100
print("Simple Interest:
```

Output:

```
Enter principal: 25000
Enter rate of interest: 7
Enter Time:(year) 3
Simple Interest: 5250.0
```

Q4. Calculate BMI from weight (pounds) and height (inches).

Program:

```
weight_P = float(input("Enter weight in pounds:"))
height_i = float(input("Enter height in inches:"))
weight_kg = weight_P * 0.45359237
height_M = height_i * 0.0254
BMI = weight_kg / (height_m ** 2)
print("BMI is:", BMI)
```

Output:

```
Enter weight in pounds: 95.5
Enter height in inches: 50
BMI is: 26.8573
```

Q5. Read an integer (100-999) and add all the digit.

Program:

```
num = int(input("Enter an integer between 100 and 999:"))
hundred_d = num//100
tens_d = (num//10)%10
ones_d = num%10
digits_sum = hundred_d + tens_d + ones_d
print(f"Sum of digits: {digit_sum}")
```

output:

```
Enter an integer between 100 and 999: 213
Sum of digits: 6
```

Q6. Enter base and height of a right angled triangle and display its area.

Program:

```
base = float(input("Enter base: "))
height = float(input("Enter height: "))
area = 0.5 * base * height
print("Area of triangle =", area)
```

output:

```
Enter base: 10
Enter height: 5
Area of triangle = 25.0
```

Q7. Find the largest of three numbers:

Program:

```
a = input("Enter first no: ")
b = input("Enter second no: ")
c = input("Enter third no: ")
print("Largest number is", max(a, b, c))
```

Output:

```
Enter first no: 20
Enter second no: 10
Enter third no: 60
Largest number is 60
```

Q8. Check given number is odd or even.

Program:

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

Output:

```
Enter a number: 3/6
3 is odd / 6 is even
```

Q9. Take two positive integers and prints true if either evenly divides the other.

Program:

```
a = int(input("Enter first num: "))
b = int(input("Enter second num: "))
if a % b == 0 or b % a == 0:
    print(True)
else:
    print(False).
```

Output:

```
Enter first num: 12
Enter second num: 6

True
```

Q10. Calculate roots of quadratic equation $ax^2 + bx + c = 0$.

Program:

```
import math
a = float(input("Enter value a: "))
b = float(input("Enter value b: "))
c = float(input("Enter value c: "))

discriminant = b**2 - 4*a*c

if discriminant > 0:
    root1 = (-b + math.sqrt(discriminant))/(2*a)
    root2 = (-b - math.sqrt(discriminant))/(2*a)
    print("Two real roots:", root1, "and", root2)

elif discriminant == 0:
    root = -b/(2*a)
    print("One real root:", root)

else:
    print("No real roots for the given equation!")
```

Output:

1. (discriminant > 0)

```
Enter value a: 1
Enter value b: 3
Enter value c: 2
Two real roots: 2.0 and 1.0
```

2. (discriminant = 0)

```
Enter value a: 1
Enter value b: -2
Enter value c: 1
one real root: 1.0
```

3. (discriminant < 0)

```
Enter value a: 1
Enter value b: 2
Enter value c: 5
No real roots for the given equation.
```

5/10/2025

Name: Satyajeet Nayak  Regd. Number: 25C214A09