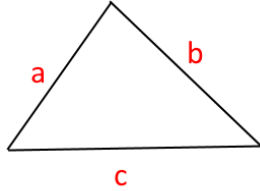


Lab Sheet 1

Programming Tasks

1. Write a program to calculate simple interest for a given P, T, R.
($I = P \cdot T \cdot R / 100$)
2. Write a program to find average of three real numbers.
3. Write a program to find area and circumference of circle. [$A = \pi r^2$ $C = 2\pi r$]
4. Write a program to find area of triangle given sides a, b, c.



$$\text{Semi parameter (s)} = \frac{a + b + c}{2}$$

$$\text{Area of triangle} = \sqrt{s(s-a)(s-b)(s-c)}$$

5. Write a program to convert Celsius to Fahrenheit and vice-versa.

Fahrenheit to Celsius	$^{\circ}\text{C} = \frac{5}{9} (^{\circ}\text{F} - 32)$
Celsius to Fahrenheit	$^{\circ}\text{F} = \left(\frac{9}{5} \times ^{\circ}\text{C}\right) + 32$

6. Write a program to find real roots of quadratic equation $ax^2 + bx + c = 0$.

The roots of a quadratic equation $ax^2 + bx + c = 0$ are found using

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \text{Quadratic Formula}$$

7. Write a program to find distance between two points (x_1, y_1) and (x_2, y_2) .

A diagram showing a Cartesian coordinate system with x and y axes. Two points are plotted: A(x₁, y₁) and B(x₂, y₂). A line segment connects the two points. To the right of the diagram, the distance d is given by the formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

8. Write a program to find volume of a cylinder. [$V = \pi r^2 h$]
9. Write a program to find compound interest.

$$\text{Compound Interest} = P \left[\left(1 + \frac{R}{100}\right)^t - 1 \right]$$