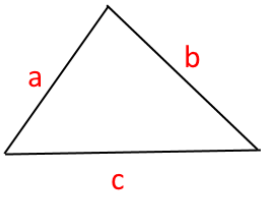
Lab Sheet 1

Programming Tasks

1. Write a program to calculate simple interest for a given P, T, R. (I = P*T*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. Writer a program to convert Celsius to Fahrenheit and vice-versa.

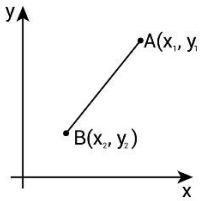
Fahrenheit to Celcius	$°C = \frac{5}{9}(°F - 32)$
Celcius to Fahrenheit	$°F = (\frac{9}{5} \times °C) + 32$

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

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

7. Write a program to find distance between two points (x1,y1) and (x2,y2).



$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

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

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