ASSIGNMENT-8

Y KAVYA

Download all python codes from

https://github.com/kavya309/Assignment8/tree/main/Assignment8

Latex-tikz codes from

https://github.com/kavya309/Assignment8/tree/main/Assignment8

1 Question No 2.42

Solve 2x-3y > 6

2 SOLUTION

Let 2x-3y=6 intersects the x-axis and y-axis at **A** and **B** respectively.

1) Let $\mathbf{A} = \begin{pmatrix} x \\ 0 \end{pmatrix}$

$$2x = 6 \tag{2.0.1}$$
$$\implies x = 3 \tag{2.0.2}$$
$$\therefore \mathbf{A} = \begin{pmatrix} 3 \\ 0 \end{pmatrix} \tag{2.0.3}$$

2) Let $\mathbf{B} = \begin{pmatrix} 0 \\ y \end{pmatrix}$

$$-3y = 6 \tag{2.0.4}$$
$$\implies y = -2 \tag{2.0.5}$$
$$\therefore \mathbf{B} = \begin{pmatrix} 0 \\ -2 \end{pmatrix} \tag{2.0.6}$$

3) Origin $= \begin{pmatrix} 0 \\ 0 \end{pmatrix}$ does not satisfy the equation 2x-3y > 6
$\implies$ The solution is the right side of the line 2x-3y = 6

4) The following is the diagrammatic representation of the solution in Fig. 2.1

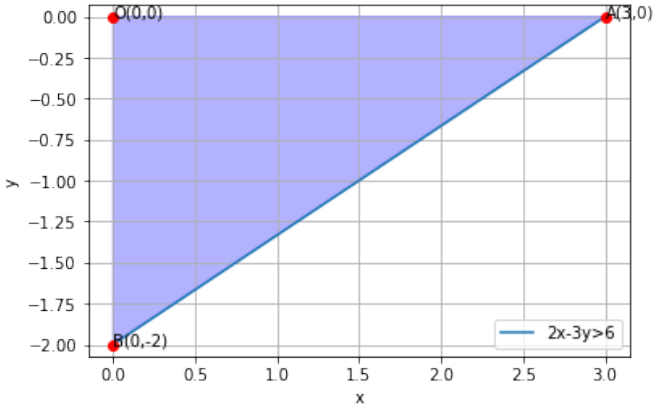

Fig. 2.1: Graphical Solution