4.2.15

EE24BTECH11041 - Mohit

1) Find the direction and normal vectors of the line $y = 2x$.
SOLUTION

Given Line	To Find
$y = 2x$	Direction and normal vectors of the line

TABLE 1: Variables Used

$$y = 2x \tag{1.1}$$

$$\leftrightarrow y = mx + c \tag{1.2}$$

$$A = \begin{pmatrix} 1 \\ m \end{pmatrix} = \begin{pmatrix} 1 \\ 2 \end{pmatrix} \tag{1.3}$$

$$B = \begin{pmatrix} -m \\ 1 \end{pmatrix} = \begin{pmatrix} -2 \\ 1 \end{pmatrix} \tag{1.4}$$

where **A** and **B** denote the Direction and Normal vectors of the line respectively.

$$\mathbf{A} = \begin{pmatrix} 1 \\ 2 \end{pmatrix} \tag{1.5}$$

$$\mathbf{B} = \begin{pmatrix} -2 \\ 1 \end{pmatrix} \tag{1.6}$$

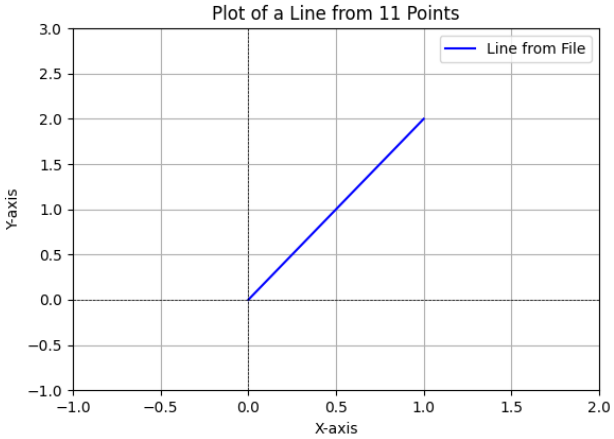

Fig. 1.1: Equation of Line *ABC*