

4.2.19

EE24BTECH11012 - Bhavanisankar G S

QUESTION

Find the direction and normal vectors of the line $x + y = 2$.

SOLUTION

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

TABLE 0: Variables Used

$$y = -x + 2 \quad (0.1)$$

$$\leftrightarrow y = mx + c \quad (0.2)$$

$$Directionvector = \begin{pmatrix} 1 \\ m \end{pmatrix} \quad (0.3)$$

$$= \begin{pmatrix} 1 \\ -1 \end{pmatrix} \quad (0.4)$$

$$Normalvector = \begin{pmatrix} -m \\ 1 \end{pmatrix} \quad (0.5)$$

$$= \begin{pmatrix} 1 \\ 1 \end{pmatrix} \quad (0.6)$$

$$(0.7)$$

$$Directionvector = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

$$Normalvector = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

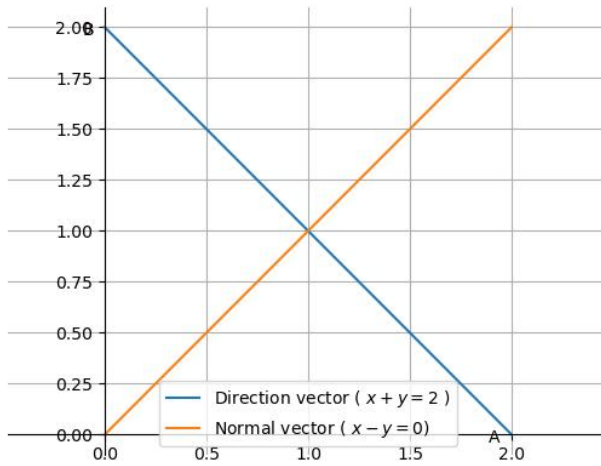


Fig. 0.1: A plot of the given question.