Assignment No.1

RajaSekhar Jala

Download all python codes from
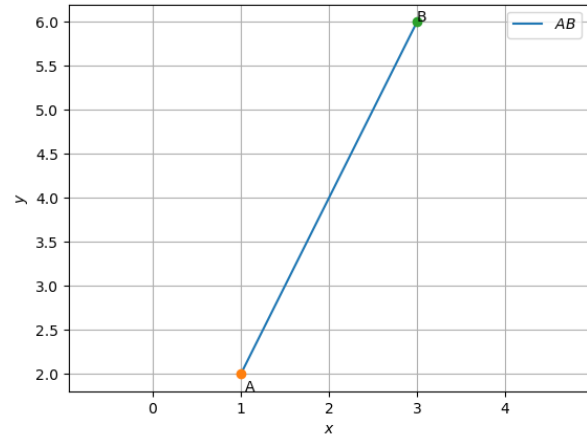
and latex-tikz codes from

Fig. 0: line formed with points(1,2) and (3,6) using Python

1 QUESTION NO.MATRICES 1.76.1

Question : Find equation of line joining (1,2) and (3,6) using determinants.

2 SOLUTION

let us consider a point C=(x,y) lies on the line joining A=(1,2) and B=(3,6)

Area Of $\Delta ABC using determinant$ det(ΔABC) =

$$1\tfrac{1}{2} \times \begin{vmatrix} 1 & 2 & 1 \\ 3 & 6 & 1 \\ x & y & 1 \end{vmatrix} = 0$$

Since A,B,C lie on same line

$$1\begin{vmatrix} 6 & 1 \\ y & 1 \end{vmatrix} - 2\begin{vmatrix} 3 & 1 \\ x & 1 \end{vmatrix} + 1\begin{vmatrix} 3 & 6 \\ x & y \end{vmatrix} = 0$$

$$1 \times (6 - y) - 2 \times (3 - x) + 1 \times (3y - 6x) = 0$$

$$2y-4x=0$$

$$y=2x$$