ASSIGNMENT 1

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Download all python codes from

https://github.com/AI20BTECH11014/EE3900-Linear-Systems-and-Signal-processing/blob/main/Assignment_1/Assignment_1.py

and latex-tikz codes from

https://github.com/AI20BTECH11014/EE3900-Linear-Systems-and-Signal-processing/blob/main/Assignment_1/Assignment_1.tex

1 Vectors 2.3

Find the length of **PQ** for

$$\mathbf{P} = \begin{pmatrix} -1 \\ 1 \end{pmatrix} \text{ and } \mathbf{Q} = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

2 Solution

The distance between **P** and **Q** is given by:

$$d = \|\mathbf{P} - \mathbf{Q}\| \tag{2.0.1}$$

So,the distance between **P** and **Q** is:

$$d = \sqrt{(-1-2)^2 + (1+1)^2} \tag{2.0.2}$$

$$d = \sqrt{9+4} \tag{2.0.3}$$

$$\therefore d = 3.6055 \tag{2.0.4}$$

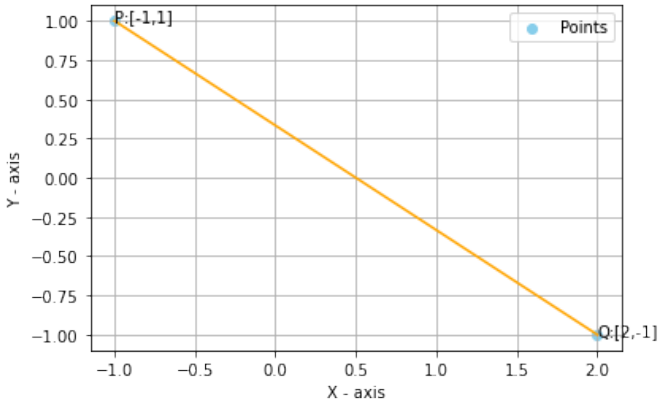

Fig. 0: Line between two points