Assignment 3

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Download all python codes from

https://github.com/balumurisandhyarani550/Assignment3/Assignment.py

and latex-tikz codes from

https://github.com/balumurisandhyarani550/Assignment3/main.text

1 Question No. 2.47

Draw a rhombus who diagonals are 5.2 and 6.4 .

2 Solution

Let the vertices of the rhombus $ABCD$ be **A**,**B**,**C** and **D**.
Given AC and BD are the diagonals. AC = 5.2 and BD = 6.4
And O is the midpoint of rhombus.

$$OA = OC = \frac{1}{2} \times AC \tag{2.0.1}$$

$$OA = OC = \frac{1}{2} \times 5.2 = 2.6 \tag{2.0.2}$$

$$OD = OB = \frac{1}{2} \times BD \tag{2.0.3}$$

$$OD = OB = \frac{1}{2} \times 6.4 = 3.2 \tag{2.0.4}$$

We obtain the vertices of the rhombus as follows

$$\mathbf{A} = \begin{pmatrix} -2.6 \\ 0 \end{pmatrix}, \mathbf{B} = \begin{pmatrix} 0 \\ -3.2 \end{pmatrix}, \mathbf{C} = \begin{pmatrix} 2.6 \\ 0 \end{pmatrix}, \mathbf{D} = \begin{pmatrix} 0 \\ 3.2 \end{pmatrix} \tag{2.0.5}$$

Plot the Rhombus $ABCD$ is as follows:

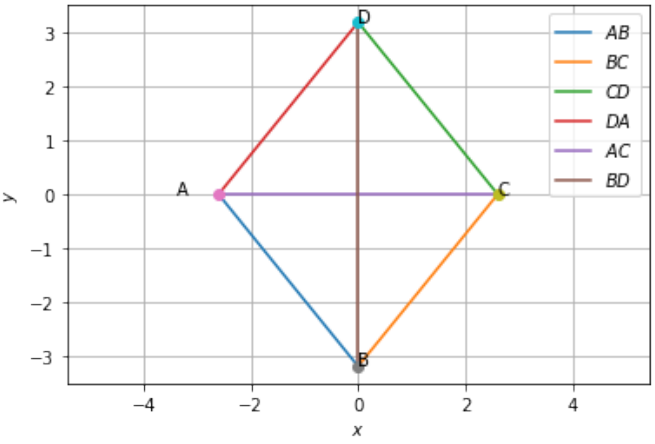

Fig. 2.1: Rhombus ABCD