2.7.32

EE25BTECH11020 - Darsh Pankaj Gajare

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Question:
Find the area of triangle whose vertices are $(2, 3)$, $(3, 5)$ and $(4, 4)$.
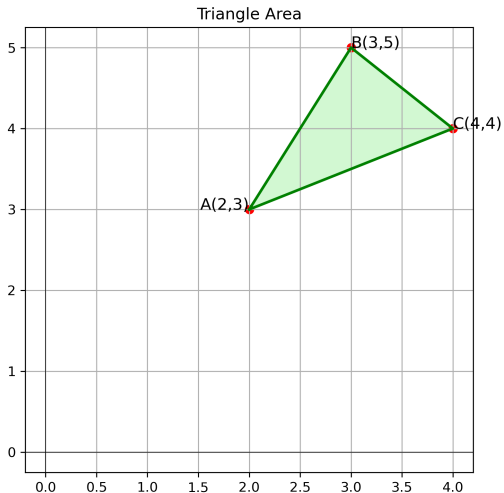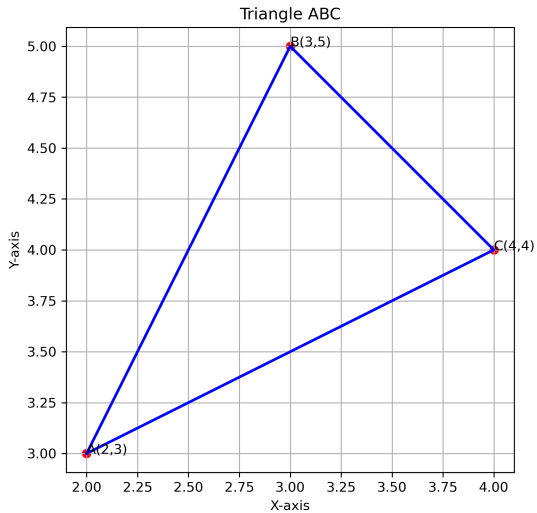
Solution: Given:

Table: Given data

Point	matrix
A	$\begin{pmatrix} 2 \\ 3 \end{pmatrix}$
B	$\begin{pmatrix} 3 \\ 5 \end{pmatrix}$
C	$\begin{pmatrix} 4 \\ 4 \end{pmatrix}$

$$\mathbf{A} - \mathbf{B} = \begin{pmatrix} -1 \\ -2 \end{pmatrix}, \mathbf{A} - \mathbf{C} = \begin{pmatrix} -2 \\ -1 \end{pmatrix} \tag{0.1}$$

$$ar\,(ABC) = \frac{1}{2}\|(\mathbf{A} - \mathbf{B}) \times (\mathbf{A} - \mathbf{C})\| = \frac{3}{2} \tag{0.2}$$

Plot using C library

Plot using Python