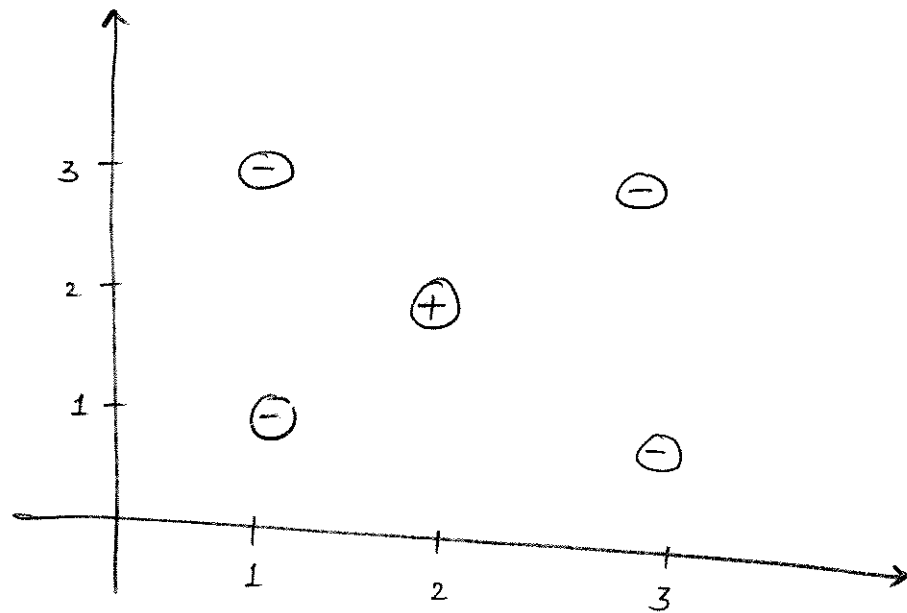


5.2)
① Given. $(\overset{+}{2}, \overset{+}{2}), (\overset{-}{1}, \overset{-}{1}), (\overset{-}{3}, \overset{-}{1}), (\overset{-}{3}, \overset{-}{3}), (\overset{-}{1}, \overset{-}{3})$ are the points
in 2-D plane.

Let's plot them -



Now, we can create the distance to separate them
from (2, 2).

$$\therefore k(2, 2) = (x_1 - 2)^2 + (x_2 - 2)^2$$

$$\therefore Z_1 = K(2, 2) = (2-2)^2 + (2-2)^2 = 0$$

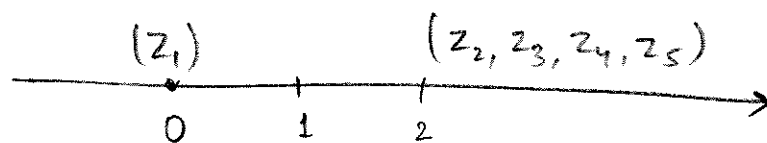
$$Z_2 = K(1, 1) = (1-2)^2 + (1-2)^2 = 2$$

$$Z_3 = K(3, 1) = (3-2)^2 + (1-2)^2 = 2$$

$$Z_4 = K(3, 3) = (3-2)^2 + (3-2)^2 = 2$$

$$Z_5 = K(1, 3) = (1-2)^2 + (3-2)^2 = 2$$

\therefore the space is transformed to -



Hence, the dataset is now linearly separable.