

Q) In equation of line: $y = mx + c$, what is the role of m and c respectively

Q) When the line $y = mx + c$ makes 90 Degree angle with X axis what will be the value of m

Q) When the line $y = mx + c$ makes 90 Degree angle with Y axis what will be the value of m

Q) In General form of equation of line: $w_1x_1 + w_2x_2 + w_0 = 0$, what is the value of slope and intercept respectively(PS: assume x_1 is x and x_2 is y)

Q) What are Parameters and Features in Following Equation:

$$w_1x_1 + w_2x_2 + w_0 = 0$$

Q) Given two lines $y = m_1x + c_1$ and $y = m_2x + c_2$, what will be the relationship between m_1 and m_2 if the lines are parallel

Q) Does a line always divide 2d plane into two Parts, Left Part and Right Part. What are the Parts Called?

Q) Does a 2d Plane always divide 3d plane into two Parts, Left Part and Right Part

Q) What will be the output shape of dot product x and y for following two matrices: $x = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $y = \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$

Q) What will be the result of dot product x and y for following two matrices: $x = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $y = \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$

Q) x is a non-zero vector, what is the unit vector in the direction of x ?

Q) If the relation between a vector x with magnitude 9 and its unit vector \hat{x} can be defined as $x = k\hat{x}$, what will be the value of k ?

Q) What is the name of the trigonometric ratio defined as the ratio of the length of the opposite side P to the length of the hypotenuse H ?

What is the name of the trigonometric ratio defined as the ratio of the length of the opposite side P to the length of the Base B ?

What is the name of the trigonometric ratio defined as the ratio length of the Base B of the length of the Hypotenuse H ?

Q) Derive projection of vector x on y ?

Q) What will be the distance between Two Non Parallel Lines

Q) What will be distance between two parallel Lines(Hint: use distance from origin to extract this and find relation)

Q) Given unit vector V what will value of $V \cdot V$ (Dot product of V with itself) and $|V|$?

Q) In this chart you will see two categories of data points: <https://www.desmos.com/calculator/vlrwndsxye>

Your Task is to concatenate these into one array with labels $+1$ and -1 and finally create a function to Calculate Average Sum of Distances from the line given in the Graph