

Assignment 1

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Abstract—This document explains the concept of parallel planes by solving a problem.

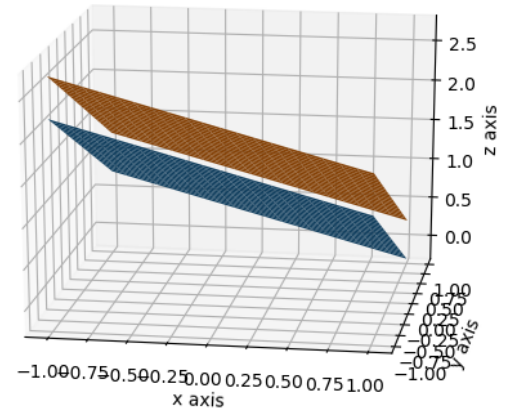
Download the python code from

https://github.com/Sairam13001/AI5006/tree/master/Assignment_1

and latex-tikz codes from

https://github.com/Sairam13001/AI5006/blob/master/Assignment_1/assignment_1.tex

Assignment-1 : Parallel Planes



1 PROBLEM

Find the distance between the two planes $(2 \ 3 \ 4)x = 4$ and $(4 \ 6 \ 8)x = 12$

2 EXPLANATION

If the two planes are of the form

$$n^T x = c_1 \quad (2.0.1)$$

and

$$n^T x = c_2 \quad (2.0.2)$$

Then the distance between the planes is given by :

$$\frac{|c_1 - c_2|}{\|n\|} \quad (2.0.3)$$

3 SOLUTION

So, the distance between the given planes is:

$$\frac{|4-6|}{\|[2 \ 3 \ 4]\|} = \frac{2}{\sqrt{29}}$$