Assignment 1

Sairam V C Rebbapragada

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

Download the python code from

and latex-tikz codes from

1 PROBLEM

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

2 EXPLANATION

If the two planes are of the form

$$\mathbf{n^T x} = c_1 \tag{2.0.1}$$

and

$$\mathbf{n^T x} = c_2 \tag{2.0.2}$$

Then the distance between the planes is given by :

$$\frac{|c_1 - c_2|}{\|\mathbf{n}\|} \tag{2.0.3}$$

3 SOLUTION

So, the distance between the given planes is:
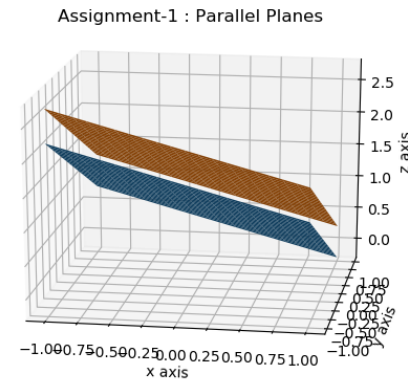
$$\frac{|4 - 6|}{\sqrt{2^2 + 3^2 + 4^2}} = \frac{2}{\sqrt{29}} \tag{3.0.1}$$

Fig. 0: Example of Two parallel planes