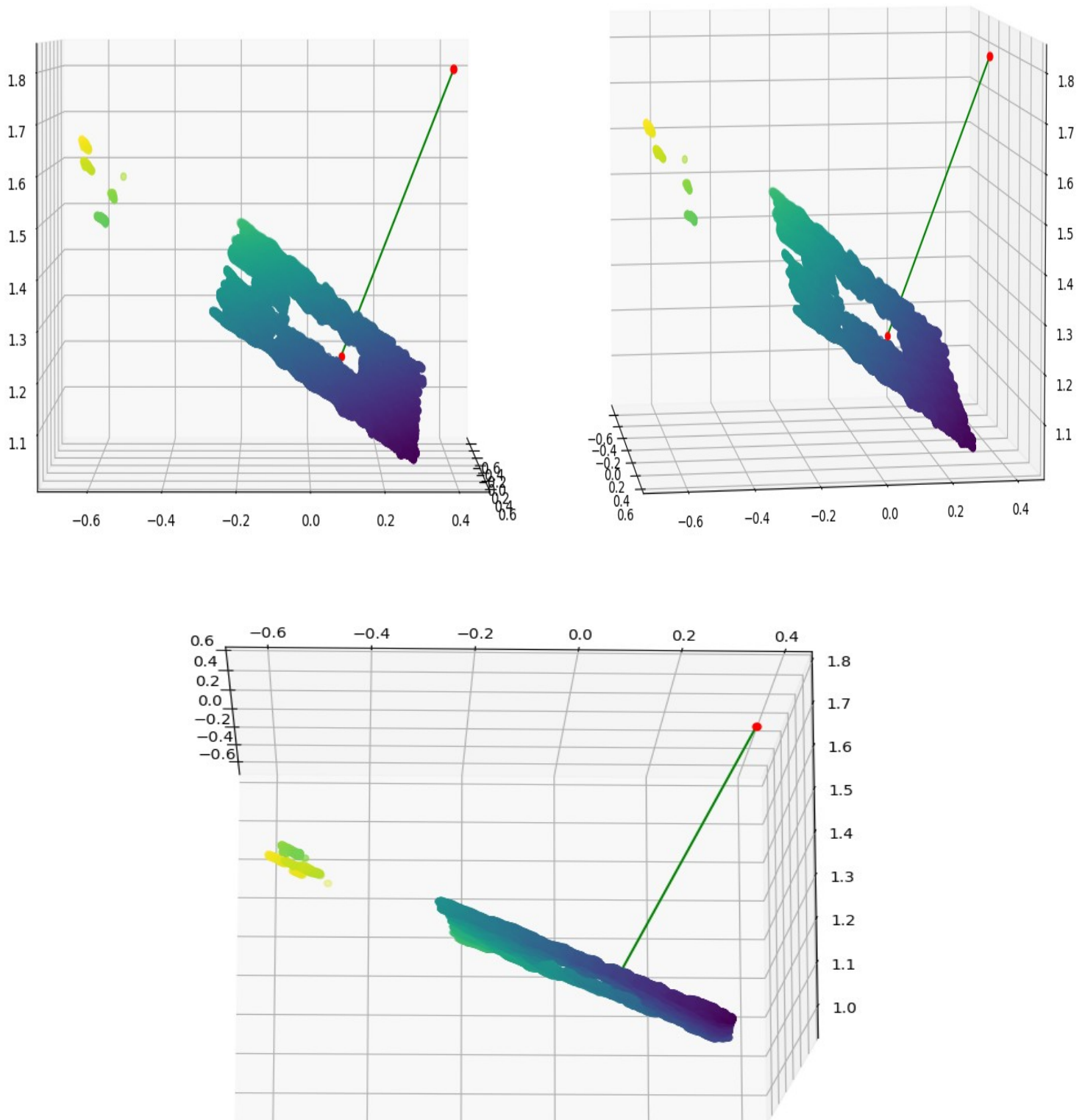


TASK 1 : VERIFYING THE SURFACE NORMAL

The Surface normal obtained through PCL RANSAC is normalised.

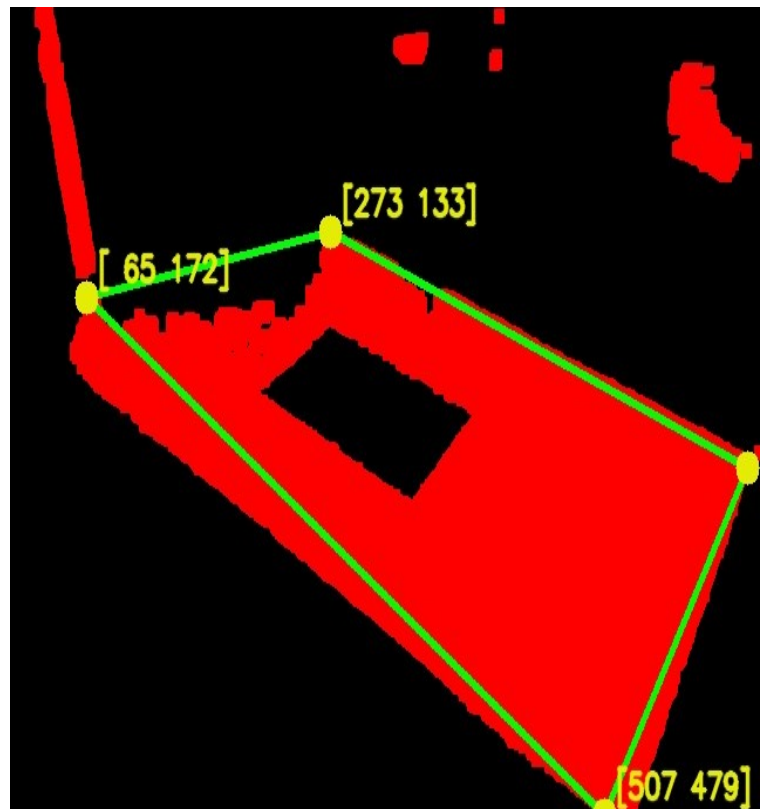
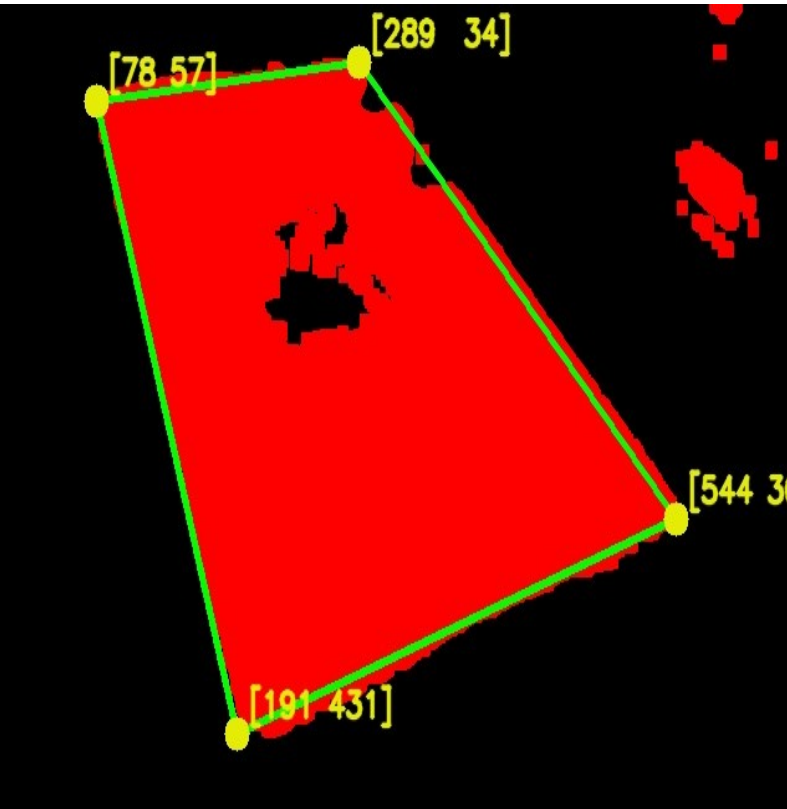
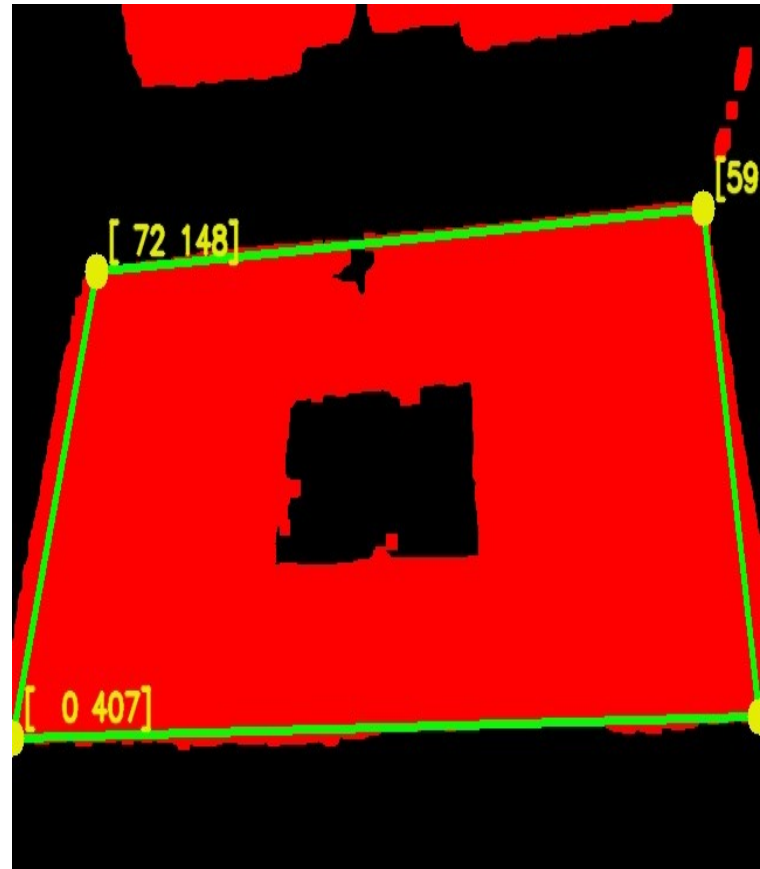
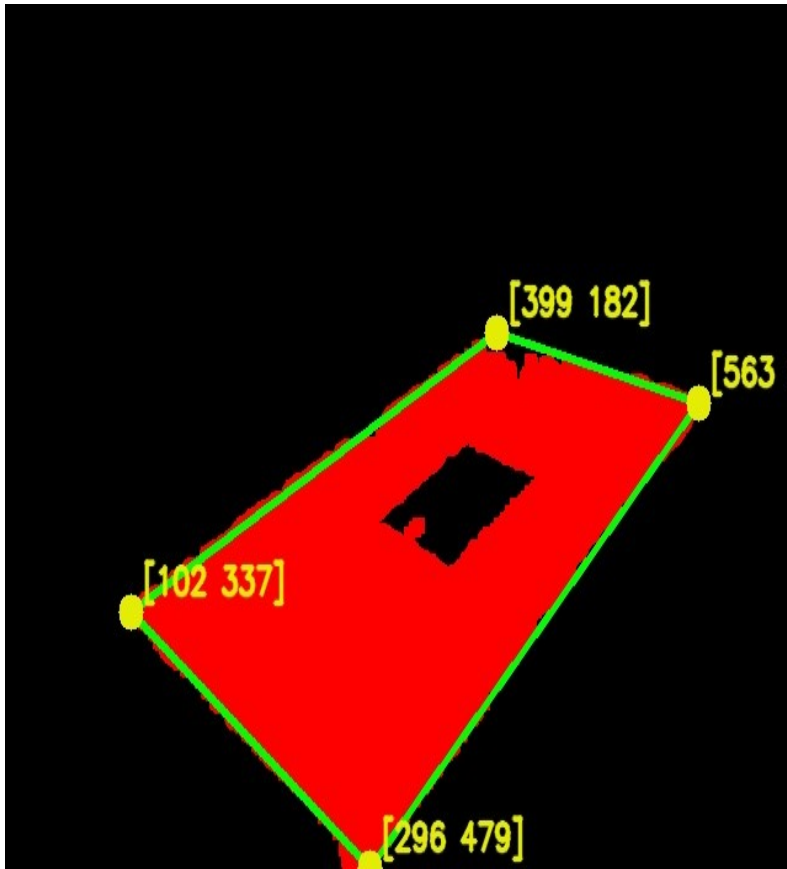
The centroid of the plane is taken and the coefficients of the surface normal is added to the centroid co-ordinates. This will be the arrow head point of the surface normal.

The 3 D plot of the above is drawn and a line is connected between the two points. The results are as shown below.

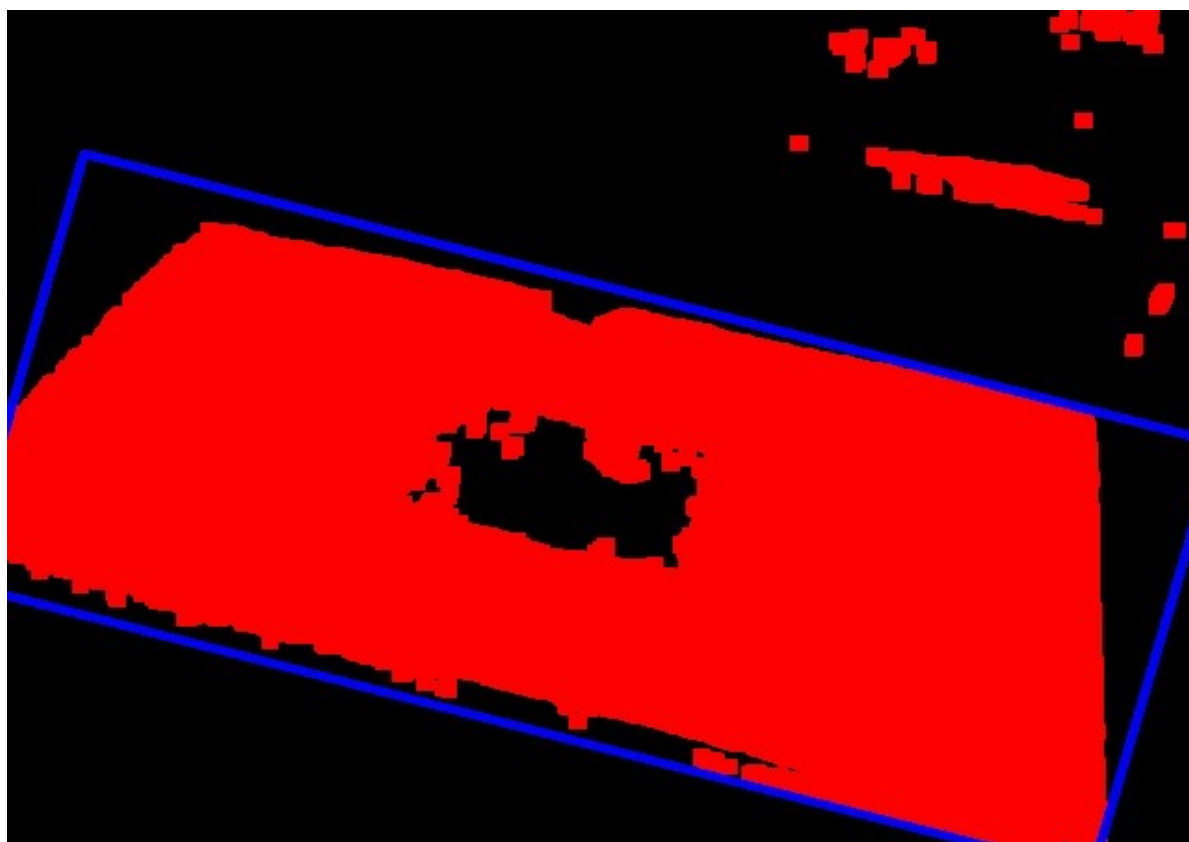
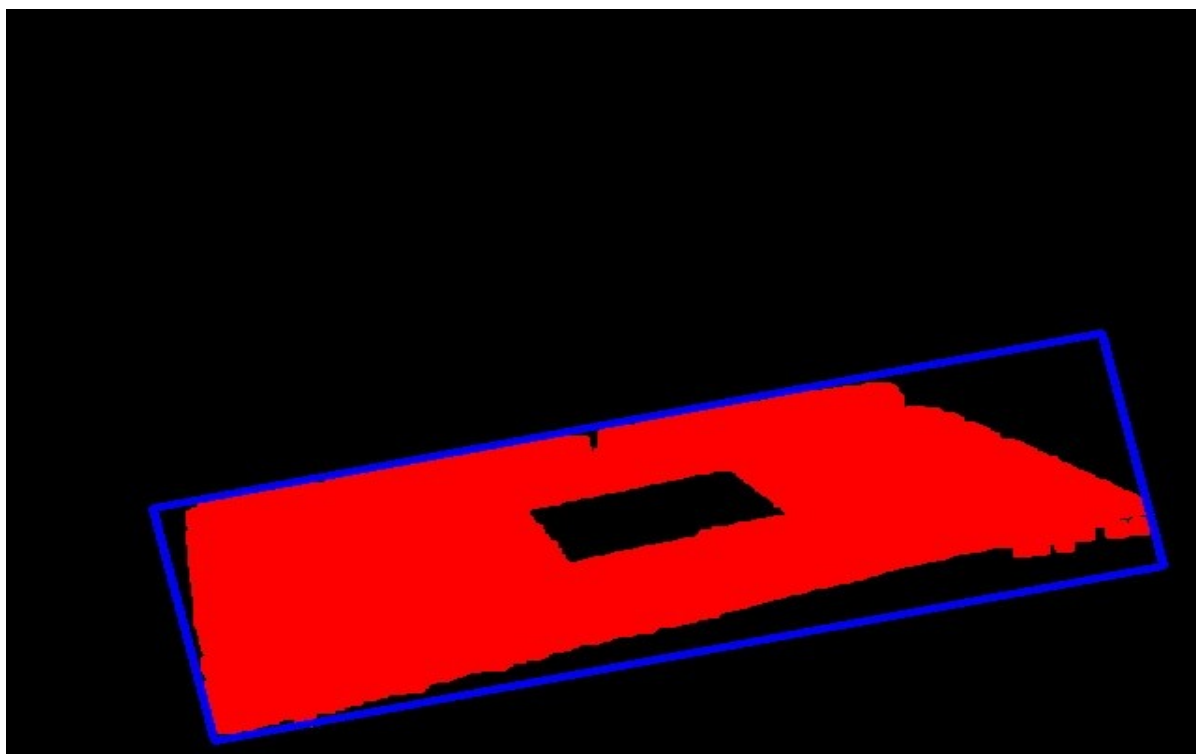


TASK 2 : Finding the four corners of the countertop

Method 1 : Using ApproxDP on the colour segmented countertop



Method 2 : Applying rotated rectangle



Method 3 : Using extreme points

