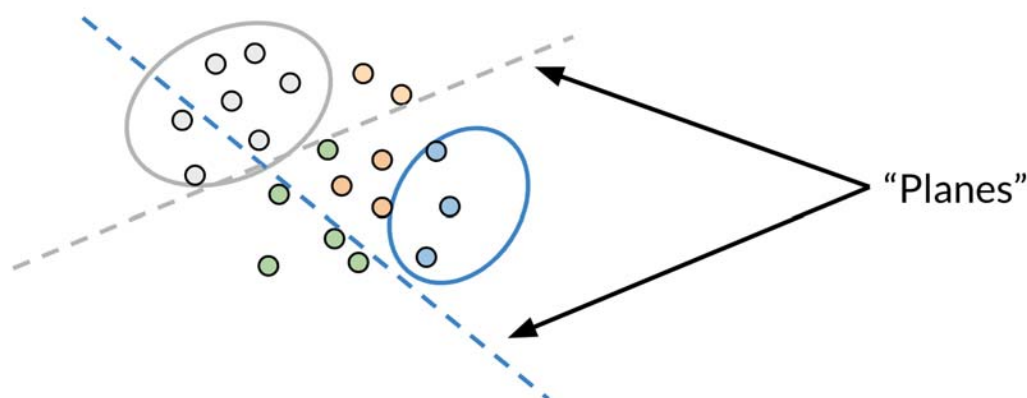
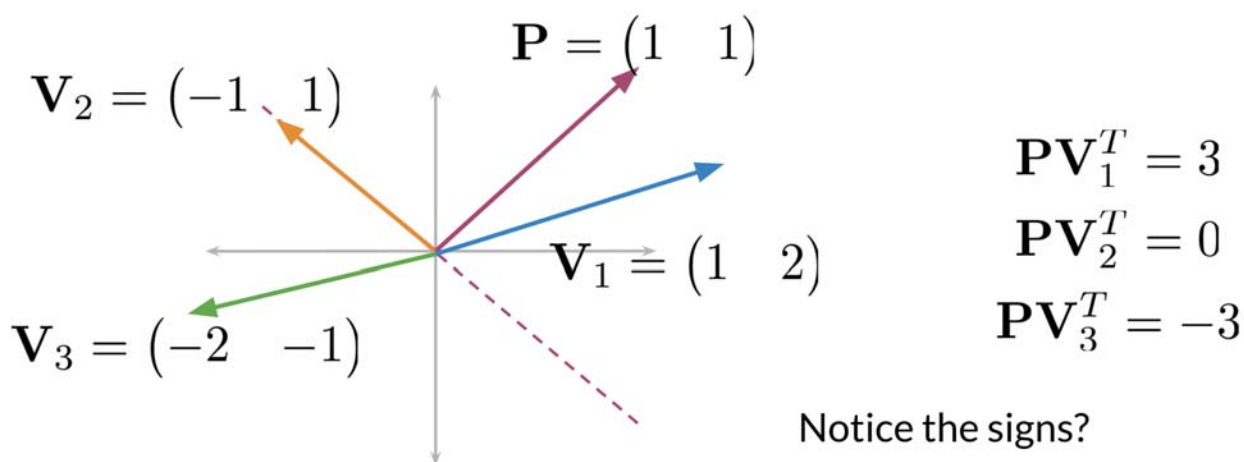


# Locality sensitive hashing

Locality sensitive hashing is a technique that allows you to hash similar inputs into the same buckets with high probability.



Instead of the typical buckets we have been using, you can think of clustering the points by deciding whether they are above or below the line. Now as we go to higher dimensions (say  $n$ -dimensional vectors), you would be using planes instead of lines. Let's look at a concrete example:



Given some point located at  $(1,1)$  and three vectors  $\mathbf{V}_1 = (1,2)$ ,  $\mathbf{V}_2 = (-1,1)$ ,  $\mathbf{V}_3 = (-2,-1)$