Assignment 2

**Competitive Learning**

1. Competitive layers and feature maps require that input vectors be normalized. But what if the available data is not normalized? One way to handle is simply to normalize the data before giving it to the network though this has a disadvantage that the vector magnitude information, which may be important is lost. Another way is to replace the inner product with distance information as in LVQ network before passing it to the network. This works and saves the magnitude information. The third solution is to append a ‘1’ to each input vector before normalizing it. Now this change will preserve the magnitude information. Show this idea on the following vectors:



**Solution: please see the next page**

