**Report On Self Organizing Neural Network( Kohonen Network)**

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**Dataset:**

* We generated 1500x2 random uniform data between -1 to 1.
* We initialised 100 (1x2) with uniform random weights between -1 to 1

**Training:**

* We updated the weights with delta weight and stored the associated node index ( minm distance between x and weight)
* For checking convergence, we used a change \_counter which is incremented if associated index is modified, if change\_counter <=1 then we stopped training

**Observation:**

* We observed that, after 10 epoch the weight index is was not getting modified significantly i.e. in 10 epochs our training was completed
* While testing we got the associated node, with the given testing data:
  + [0.1 0.8] : 46
  + [0.5 0.2] : 77
  + [-0.8 -0.9] : 94
  + [-0.06 0.9 ] : 44