Only somethings are left to be done

1.) Hebbian Learning Rule

→ No backtracking phenomenon

→ weights are simply adjusted using

→ the input

→ the prev activations

$$w^{new} = w^{old} + sign(w_{old}^T \times x) \times x$$

↳ NO LAYER STRUCTURES

2.) Delta Learning

1) output calculate $(w^T \times x)$

2) output activation $(sgn(w^T x))$

3) differential of activation $\frac{2\exp(-w^T x)}{[1+\exp(-w^T x)]^2}$

4) weight updation

$$w^2 = w^1 + \text{learing rate} \times (d_0 - \text{activation}) f'(\text{activat})$$

↳ SINGLE LAYER STRUCTURE

3.) Widrow Hoff Learning

(special case of Delta learning)

→ all the steps are same as Delta learning but the activation fuction is not involved

→ $w^2 = w^1 + \text{learning rate} \times (d - w^T x) \times x$

$\rightarrow \omega^{-} = \omega$ + learning rate × $(d_0 - \omega x)$

$\Delta\omega =$ learning rate × $(d_0 - \omega^T n) \times n$

↓

no activation function used here.

↳ SINGLE LAYER NETWORK.

3) Back Propagation for single layer perceptron

4) Radial Bias Function Networks

→ Hidden units are called radias centres.

→ FF from input to hidden is non-linear ✓

→ TF from hidden to output is linear. ✓

→ Basically these have additional propeity of measuring "HOW CLOSE THE INPUT TO A GIVEN PROTOTYPE"

↳ THAT'S WHY THEY USE ≈ GAUSSIAN

→ After the network has completed the learing phase it will be to learn data points which is basically the centre of the bell curve amongs the most dense points.

Q. How to train R.B.F.N.N ??

→ IC
→ pdc
→ micro make structure.
→ control
→ micro (1-2 hrs)
→ APC evening