Assignment 2

KPS Harish Krupo
201351027

- Linear Regression:
  - W = -0.78223   0.14425   0.46916 -0.44467 -0.12903
  - Ein =0
  - Eout=0.0243
- Non Linear Regression
  - W= -4.556317   2.087750   1.123430 -1.927859   0.116359 -0.187289 -0.025208
    0.138921   0.497422 -0.141351   0.093756   0.116409   0.148946 -0.399300 -0.296759
  - Ein = 0
  - Eout = 0.024390

- Pocket algorithm
  - W = 1.5000   1.3000   5.7000 -8.7000 -2.7000

- The following Ein and Eout were obtained for the partitions, each of them were run for 1 to 100 epochs
  - 30 – 70
    - Ein : 0.2444 0.2444 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
      0.0222 0.0222
    - Eout : 0.3714 0.3714 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285 0.0285
      0.0285 0.0285
  - 40-60
    - Ein 0.35 0.35 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
      0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
      0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
      0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
      0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
      0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
      0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333

0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333
0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333 0.03333

- Eout 0.322 0.322 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222 0.0222
  0.0222

○ 50-50
- Ein 0.3333 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- Eout 0.3333 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

○ 60-40
- Ein 0.2777777777777778 0.2777777777777778 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- Eout 0.4166666666666667 0.4166666666666667 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

○ 70-30
- Ein 0.314 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- Eout 0.2444444444444444 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

- For the graphs

Ratio :40-60

Ratio :50-50

Ratio :60-40