Results

Iris Dataset

------- **Single Sample Perceptron** -------

Strategy : One Versus One

Mean   :2.0

Variance:7.111111111111117

Deviation:2.666666666666668

Confusion Matrix:

10.0 0.0 0.0
0.0 9.8 0.2
0.0 0.4 9.6

Strategy : One Versus Rest

Mean   :18.666666666666668

Variance:42.66666666666666

Deviation:6.531972647421807

Confusion Matrix:

10.0	0.0	0.0
0.4	9.6	0.0
0.0	5.2	4.8

------- **Single Sample Relaxation Variable Eta** -------

Strategy : One Versus One

Mean   :29.333333333333336

Variance:184.00000000000009

Deviation:13.56465996625054

Confusion Matrix:

6.6 3.4 0.0
0.0 8.6 1.4
0.0 4.0 6.0

Strategy : One Versus Rest

Mean   :33.33333333333334

Variance:0.0

Deviation:0.0

Confusion Matrix:

```
10.0    0.0     0.0
0.0     10.0    0.0
0.0     10.0    0.0
```
------- Batch Perceptron -------

Strategy : One Versus One

Mean   :2.0

Variance:7.111111111111117

Deviation:2.666666666666668

Confusion Matrix:

```
10.0 0.0 0.0
0.0 9.8 0.2
0.0 0.4 9.6
```

Strategy : One Versus Rest

Mean   :1.3333333333333315

Variance:2.6666666666666594

Deviation:1.6329931618554498

Confusion Matrix:

```
10.0    0.0     0.0
0.0     9.6     0.4
0.0     0.0     10.0
```

------- **Batch Relaxation Variable Eta**-------

Strategy : One Versus One

Mean   :4.666666666666666

Variance:11.555555555555562

Deviation:3.399346342395191

Confusion Matrix:

```
10.0 0.0 0.0
0.0 9.6 0.4
0.0 1.0 9.0
```

Strategy : One Versus Rest

Mean   :28.000000000000007

Variance:24.888888888888925

Deviation:4.988876515698592

Confusion Matrix:

```
10.0    0.0     0.0
6.2     3.2     0.6
1.6     0.0     8.4
```

------- **Mse Psuedo Inverse** -------

Strategy : One Versus One

Mean   :1.9999999999999971

Variance:2.666666666666659

Deviation:1.6329931618554496

Confusion Matrix:

```
10.0 0.0 0.0
0.0 9.6 0.4
0.0 0.2 9.8
```

Strategy : One Versus Rest

Mean   :15.999999999999995

Variance:10.666666666666657

Deviation:3.265986323710903

Confusion Matrix:

```
10.0    0.0     0.0
0.0     7.0     3.0
        0.0 1.8     8.2
        0.1
```

------- **Mse LMS** -------

Strategy : One Versus One

Mean   :66.66666666666667

Variance:0.0

Deviation:0.0

Confusion Matrix:

0.0 0.0 10.0
0.0 0.0 10.0
0.0 0.0 10.0

Strategy : One Versus Rest

Mean   :66.66666666666667

Variance:0.0

Deviation:0.0

Confusion Matrix:

0.0   0.0   10.0
0.0   0.0   10.0
0.0   0.0   10.0

Wine Dataset

------- **Single Sample Perceptron** -------

Strategy : One Versus One

Mean   :41.76470588235294

Variance:115.57093425605535

Deviation:10.750392283821803

Confusion Matrix:

```
10.2 0.6 0.2
2.4 6.0 5.6
4.2 1.2 3.6
```

Strategy : One Versus Rest

Mean   :41.76470588235294

Variance:87.88927335640145

Deviation:9.374927912064255

Confusion Matrix:

```
8.4     2.6     0.0
3.0     11.0    0.0
3.8     4.8     0.4
```

------- **Single Sample Relaxation Variable Eta** -------

Strategy : One Versus One

Mean   :48.23529411764706

Variance:60.89965397923877

Deviation:7.803823036130353

Confusion Matrix:

```
11.0 0.0 0.0
6.2 5.0 2.8
6.8 0.6 1.6
```

Strategy : One Versus Rest

Mean :48.23529411764706

Variance:216.6089965397924

Deviation:14.717642356702122

Confusion Matrix:

```
10.6   0.4    0.0
6.6    7.0    0.4
6.6    2.4    0.0
```

------- Batch Perceptron -------

Strategy : One Versus One

Mean :27.647058823529413

Variance:26.297577854671268

Deviation:5.128116404165497

Confusion Matrix:

```
9.4 1.4 0.2
1.8 11.0 1.2
0.4 4.4 4.2
```

Strategy : One Versus Rest

Mean :30.588235294117645

Variance:5.5363321799308105

Deviation:2.3529411764705914

Confusion Matrix:

```
9.4    1.4    0.2
1.2    11.4   1.4
0.2    6.0    2.8
```

------- Batch Relaxation Variable Eta-------

Strategy : One Versus One

Mean :73.52941176470588

Variance:0.0

Deviation:0.0

Confusion Matrix:

0.0 0.0 11.0
0.0 0.0 14.0
0.0 0.0 9.0

Strategy : One Versus Rest

Mean   :67.64705882352942

Variance:0.0

Deviation:0.0

Confusion Matrix:

11.0	0.0	0.0
14.0	0.0	0.0
9.0	0.0	0.0

------- **Mse Psuedo Inverse** -------

Strategy : One Versus One

Mean   :2.3529411764705914

Variance:8.304498269896214

Deviation:2.8817526385684484

Confusion Matrix:

11.0 0.0 0.0
0.4 13.2 0.4
0.0 0.0 9.0

Strategy : One Versus Rest

Mean   :1.1764705882352928

Variance:2.076124567474044

Deviation:1.4408763192842209

Confusion Matrix:

11.0	0.0	0.0
0.0	13.6	0.4
0.0	0.0	9.0

------- **Mse LMS** -------

Strategy : One Versus One

Mean   :73.52941176470588

Variance:0.0

Deviation:0.0

Confusion Matrix:

```
0.0 0.0 11.0
0.0 0.0 14.0
0.0 0.0 9.0
```

Strategy : One Versus Rest

Mean   :67.64705882352942

Variance:0.0

Deviation:0.0

Confusion Matrix:

```
11.0    0.0     0.0
14.0    0.0     0.0
9.0     0.0     0.0
```

WineQuality Dataset

------- **Single Sample Perceptron** -------

Strategy : One Versus One

Mean :13.328197226502311

Variance:30.31806667125674

Deviation:5.506184402220538

Confusion Matrix:

978.2 0.8
172.2 146.8

Strategy : One Versus Rest

Mean :15.59322033898305

Variance:14.517059551140672

Deviation:3.810125923265617

Confusion Matrix:

978.4   0.6
201.8   117.2

------- **Single Sample Relaxation Variable Eta** -------

Strategy : One Versus One

Mean :21.386748844375962

Variance:25.974772139667273

Deviation:5.096545117986033

Confusion Matrix:

977.8 1.2
276.4 42.6

Strategy : One Versus Rest

Mean :23.328197226502308

Variance:0.15527028663274806

Deviation:0.39404350855298714

Confusion Matrix:

978.4 0.6
302.2 16.8

------- **Batch Perceptron** -------

Strategy : One Versus One

Mean   :9.383667180277351

Variance:0.11965783557019047

Deviation:0.34591593714396923

Confusion Matrix:

909.8 69.2
52.6 266.4

Strategy : One Versus Rest

Mean   :23.713405238828972

Variance:0.01282048238252186

Deviation:0.11322756900385109

Confusion Matrix:

979.0   0.0
307.8   11.2

------- **Batch Relaxation Variable Eta**-------

Strategy : One Versus One

Mean   :75.42372881355932

Variance:0.0

Deviation:0.0

Confusion Matrix:

0.0 979.0
0.0 319.0

Strategy : One Versus Rest

Mean   :24.576271186440678

Variance:0.0

Deviation:0.0

Confusion Matrix:

979.0 0.0
319.0 0.0

------- **Mse Psuedo Inverse** -------

Strategy : One Versus One

Mean   :0.44684129429891756

Variance:0.005697992170009493

Deviation:0.07548504600256592

Confusion Matrix:

977.2 1.8
4.0 315.0

Strategy : One Versus Rest

Mean   :0.44684129429891756

Variance:0.005697992170009493

Deviation:0.07548504600256592

Confusion Matrix:

977.2   1.8
4.0   315.0

------- **Mse LMS** -------

Strategy : One Versus One

Mean   :75.42372881355932

Variance:0.0

Deviation:0.0

Confusion Matrix:

0.0 979.0
0.0 319.0

Strategy : One Versus Rest

Mean   :24.576271186440678

Variance:0.0

Deviation:0.0

Confusion Matrix:

979.0   0.0
319.0   0.0