Depth = 4:
ID3
Fold1:
firstName0=t = 1: +
firstName0=t = 0
| lastName2=l = 1: +
| lastName2=l = 0
| | firstName1=t = 1: +
| | firstName1=t = 0
| | | firstName1=o = 1
| | | | lastName0=r = 1: -
| | | | lastName0=r = 0: +
| | | firstName1=o = 0
| | | | firstName0=c = 1: +
| | | | firstName0=c = 0: -

Correctly Classified Instances   7   53.8462 %
Incorrectly Classified Instances   6   46.1538 %
Kappa statistic   0.1136
Mean absolute error   0.4505
Root mean squared error   0.5509
Relative absolute error   90.5744 %
Root relative squared error   110.5075 %
Total Number of Instances   13

ID3
Fold2:
firstName0=r = 1: +
firstName0=r = 0
| lastName0=m = 1: +
| lastName0=m = 0
| | lastName0=k = 1: -
| | lastName0=k = 0
| | | firstName2=a = 1: -
| | | firstName2=a = 0
| | | | firstName2=n = 1: -
| | | | firstName2=n = 0: +

Correctly Classified Instances   4   33.3333 %
Incorrectly Classified Instances   8   66.6667 %
Kappa statistic   0.0769
Mean absolute error   0.5208
Root mean squared error   0.5918
Relative absolute error   168.2692 %
Root relative squared error   157.5117 %
Total Number of Instances   12

ID3
Fold3:
firstName2=l = 1: -
firstName2=l = 0
| firstName0=n = 1: -
| firstName0=n = 0
| | lastName2=i = 1: -
| | lastName2=i = 0
| | | firstName3=h = 1: +
| | | firstName3=h = 0
| | | | firstName4=a = 1: -
| | | | firstName4=a = 0: +

Correctly Classified Instances	5	50	%
Incorrectly Classified Instances	5	50	%
Kappa statistic	0		
Mean absolute error	0.4391		
Root mean squared error	0.5194		
Relative absolute error	87.8261 %		
Root relative squared error	103.8757 %		
Total Number of Instances	10		

ID3
Fold4:
firstName3=e = 1: +
firstName3=e = 0
| firstName2=s = 1: -
| firstName2=s = 0
| | firstName0=a = 1: +
| | firstName0=a = 0
| | | firstName2=o = 1: +
| | | firstName2=o = 0
| | | | firstName3=f = 1: +
| | | | firstName3=f = 0: -

Correctly Classified Instances	10	71.4286 %
Incorrectly Classified Instances	4	28.5714 %
Kappa statistic	0.2432	
Mean absolute error	0.4015	
Root mean squared error	0.445	
Relative absolute error	86.4865 %	
Root relative squared error	92.8149 %	
Total Number of Instances	14	

ID3
Fold5:
lastName4=o = 1: +

lastName4=o = 0
| firstName0=l = 1: +
| firstName0=l = 0
| | firstName0=d = 1
| | | lastName0=p = 1: -
| | | lastName0=p = 0: +
| | firstName0=d = 0
| | | firstName4=h = 1: +
| | | firstName4=h = 0
| | | | lastName2=o = 1: +
| | | | lastName2=o = 0: -

Correctly Classified Instances   10   83.3333 %
Incorrectly Classified Instances   2   16.6667 %
Kappa statistic   0.5556
Mean absolute error   0.202
Root mean squared error   0.3991
Relative absolute error   51.4233 %
Root relative squared error   91.8677 %
Total Number of Instances   12

Average:58.3888286649.2967%

Depth = 8:
ID3
Fold1:
firstName0=t = 1: +
firstName0=t = 0
| lastName2=l = 1: +
| lastName2=l = 0
| | firstName1=t = 1: +
| | firstName1=t = 0
| | | firstName1=o = 1
| | | | lastName0=r = 1: -
| | | | lastName0=r = 0
| | | | | firstName0=y = 1: -
| | | | | firstName0=y = 0: +
| | | firstName1=o = 0
| | | | firstName0=c = 1: +
| | | | firstName0=c = 0
| | | | | firstName3=f = 1: +
| | | | | firstName3=f = 0
| | | | | | lastName4=h = 1
| | | | | | | firstName0=p = 1: -
| | | | | | | firstName0=p = 0: +
| | | | | | lastName4=h = 0

| | | | | | | | firstName3=r = 1: +
| | | | | | | | firstName3=r = 0
| | | | | | | | | lastName4=d = 1: +
| | | | | | | | | lastName4=d = 0: -

Correctly Classified Instances   4   30.7692 %
Incorrectly Classified Instances   9   69.2308 %
Kappa statistic   -0.3765
Mean absolute error   0.6429
Root mean squared error   0.7741
Relative absolute error   129.2342 %
Root relative squared error   155.2687 %
Total Number of Instances   13

ID3
Fold2:
firstName0=r = 1: +
firstName0=r = 0
| lastName0=m = 1: +
| lastName0=m = 0
| | lastName0=k = 1: -
| | lastName0=k = 0
| | | firstName2=a = 1: -
| | | firstName2=a = 0
| | | | firstName2=n = 1: -
| | | | firstName2=n = 0
| | | | | firstName1=e = 1: +
| | | | | firstName1=e = 0
| | | | | | lastName3=n = 1: -
| | | | | | lastName3=n = 0
| | | | | | | lastName3=t = 1: -
| | | | | | | lastName3=t = 0
| | | | | | | | firstName0=t = 1: -
| | | | | | | | firstName0=t = 0: +

Correctly Classified Instances   3   25   %
Incorrectly Classified Instances   9   75   %
Kappa statistic   -0.125
Mean absolute error   0.6806
Root mean squared error   0.7743
Relative absolute error   219.8718 %
Root relative squared error   206.0903 %
Total Number of Instances   12

ID3
Fold3:
firstName2=l = 1: -

```
firstName2=l = 0
|  firstName0=n = 1: -
|  firstName0=n = 0
|  |  lastName2=i = 1: -
|  |  lastName2=i = 0
|  |  |  firstName3=h = 1: +
|  |  |  firstName3=h = 0
|  |  |  |  firstName4=a = 1: -
|  |  |  |  firstName4=a = 0
|  |  |  |  |  firstName0=s = 1: -
|  |  |  |  |  firstName0=s = 0
|  |  |  |  |  |  lastName1=a = 1: +
|  |  |  |  |  |  lastName1=a = 0
|  |  |  |  |  |  |  firstName0=l = 1: -
|  |  |  |  |  |  |  firstName0=l = 0
|  |  |  |  |  |  |  |  firstName2=s = 1: -
|  |  |  |  |  |  |  |  firstName2=s = 0: +
```

Correctly Classified Instances	4	40	%
Incorrectly Classified Instances	6	60	%
Kappa statistic	-0.2		
Mean absolute error	0.55		
Root mean squared error	0.6614		
Relative absolute error	110	%	
Root relative squared error	132.2876 %		
Total Number of Instances	10		

```
ID3
Fold4:
firstName3=e = 1: +
firstName3=e = 0
|  firstName2=s = 1: -
|  firstName2=s = 0
|  |  firstName0=a = 1: +
|  |  firstName0=a = 0
|  |  |  firstName2=o = 1: +
|  |  |  firstName2=o = 0
|  |  |  |  firstName3=f = 1: +
|  |  |  |  firstName3=f = 0
|  |  |  |  |  firstName0=j = 1: -
|  |  |  |  |  firstName0=j = 0
|  |  |  |  |  |  lastName0=l = 1: +
|  |  |  |  |  |  lastName0=l = 0
|  |  |  |  |  |  |  firstName3=n = 1
|  |  |  |  |  |  |  |  firstName0=b = 1: -
|  |  |  |  |  |  |  |  firstName0=b = 0: +
|  |  |  |  |  |  |  firstName3=n = 0
|  |  |  |  |  |  |  |  lastName2=l = 1: +
```

| | | | | | | | lastName2=l = 0: -

Correctly Classified Instances   12   85.7143 %
Incorrectly Classified Instances   2   14.2857 %
Kappa statistic   0.6585
Mean absolute error   0.256
Root mean squared error   0.3484
Relative absolute error   55.1282 %
Root relative squared error   72.6676 %
Total Number of Instances   14

ID3
Fold5:
lastName4=o = 1: +
lastName4=o = 0
| firstName0=l = 1: +
| firstName0=l = 0
| | firstName0=d = 1
| | | lastName0=p = 1: -
| | | lastName0=p = 0: +
| | firstName0=d = 0
| | | firstName4=h = 1: +
| | | firstName4=h = 0
| | | | lastName2=o = 1: +
| | | | lastName2=o = 0
| | | | | firstName0=k = 1
| | | | | | firstName1=a = 1: -
| | | | | | firstName1=a = 0: +
| | | | | firstName0=k = 0
| | | | | | firstName2=h = 1
| | | | | | | firstName3=a = 1: -
| | | | | | | firstName3=a = 0: +
| | | | | | firstName2=h = 0: -

Correctly Classified Instances   9   75   %
Incorrectly Classified Instances   3   25   %
Kappa statistic   0.4
Mean absolute error   0.25
Root mean squared error   0.5
Relative absolute error   63.6364 %
Root relative squared error   115.0793 %
Total Number of Instances   12

Average:51.2967%

Whole Tree:
ID3
Fold1:
firstName0=t = 1: +
firstName0=t = 0
| lastName2=l = 1: +
| lastName2=l = 0
| | firstName1=t = 1: +
| | firstName1=t = 0
| | | firstName1=o = 1
| | | | lastName0=r = 1: -
| | | | lastName0=r = 0
| | | | | firstName0=y = 1: -
| | | | | firstName0=y = 0: +
| | | firstName1=o = 0
| | | | firstName0=c = 1: +
| | | | firstName0=c = 0
| | | | | firstName3=f = 1: +
| | | | | firstName3=f = 0
| | | | | | lastName4=h = 1
| | | | | | | firstName0=p = 1: -
| | | | | | | firstName0=p = 0: +
| | | | | | lastName4=h = 0
| | | | | | | firstName3=r = 1: +
| | | | | | | firstName3=r = 0
| | | | | | | | lastName4=d = 1
| | | | | | | | | firstName1=r = 1: -
| | | | | | | | | firstName1=r = 0: +
| | | | | | | | lastName4=d = 0
| | | | | | | | | firstName2=m = 1: +
| | | | | | | | | firstName2=m = 0: -

Correctly Classified Instances   4   30.7692 %
Incorrectly Classified Instances   9   69.2308 %
Kappa statistic   -0.3765
Mean absolute error   0.6923
Root mean squared error   0.8321
Relative absolute error   139.1753 %
Root relative squared error   166.8958 %
Total Number of Instances   13

ID3
Fold2:
firstName0=r = 1: +
firstName0=r = 0
| lastName0=m = 1: +
| lastName0=m = 0

| | lastName0=k = 1: -
| | lastName0=k = 0
| | | firstName2=a = 1: -
| | | firstName2=a = 0
| | | | firstName2=n = 1: -
| | | | firstName2=n = 0
| | | | | firstName1=e = 1: +
| | | | | firstName1=e = 0
| | | | | | lastName3=n = 1: -
| | | | | | lastName3=n = 0
| | | | | | | lastName3=t = 1: -
| | | | | | | lastName3=t = 0
| | | | | | | | firstName0=t = 1: -
| | | | | | | | firstName0=t = 0
| | | | | | | | | firstName2=z = 1: -
| | | | | | | | | firstName2=z = 0
| | | | | | | | | | firstName4=n = 1: -
| | | | | | | | | | firstName4=n = 0: +

Correctly Classified Instances   3   25   %
Incorrectly Classified Instances   9   75   %
Kappa statistic   -0.125
Mean absolute error   0.75
Root mean squared error   0.866
Relative absolute error   242.3077 %
Root relative squared error   230.5049 %
Total Number of Instances   12

ID3
Fold3:
firstName2=l = 1: -
firstName2=l = 0
| firstName0=n = 1: -
| firstName0=n = 0
| | lastName2=i = 1: -
| | lastName2=i = 0
| | | firstName3=h = 1: +
| | | firstName3=h = 0
| | | | firstName4=a = 1: -
| | | | firstName4=a = 0
| | | | | firstName0=s = 1: -
| | | | | firstName0=s = 0
| | | | | | lastName1=a = 1: +
| | | | | | lastName1=a = 0
| | | | | | | firstName0=l = 1: -
| | | | | | | firstName0=l = 0
| | | | | | | | firstName2=s = 1: -
| | | | | | | | firstName2=s = 0

| | | | | | | | | firstName3=a = 1
| | | | | | | | | | firstName0=b = 1: +
| | | | | | | | | | firstName0=b = 0: -
| | | | | | | | | | firstName3=a = 0
| | | | | | | | | | | firstName0=b = 1: -
| | | | | | | | | | | firstName0=b = 0
| | | | | | | | | | | | firstName3=g = 1: -
| | | | | | | | | | | | firstName3=g = 0: +

Correctly Classified Instances   3   30   %
Incorrectly Classified Instances   7   70   %
Kappa statistic   -0.4
Mean absolute error   0.7
Root mean squared error   0.8367
Relative absolute error   140   %
Root relative squared error   167.332 %
Total Number of Instances   10

ID3
Fold4:
firstName3=e = 1: +
firstName3=e = 0
| firstName2=s = 1: -
| firstName2=s = 0
| | firstName0=a = 1: +
| | firstName0=a = 0
| | | firstName2=o = 1: +
| | | firstName2=o = 0
| | | | firstName3=f = 1: +
| | | | firstName3=f = 0
| | | | | firstName0=j = 1: -
| | | | | firstName0=j = 0
| | | | | | lastName0=l = 1: +
| | | | | | lastName0=l = 0
| | | | | | | firstName3=n = 1
| | | | | | | firstName0=b = 1: -
| | | | | | | firstName0=b = 0: +
| | | | | | | firstName3=n = 0
| | | | | | | lastName2=l = 1
| | | | | | | | firstName2=n = 1: -
| | | | | | | | firstName2=n = 0: +
| | | | | | | | lastName2=l = 0
| | | | | | | | firstName0=k = 1: +
| | | | | | | | firstName0=k = 0
| | | | | | | | | firstName0=o = 1: +
| | | | | | | | | firstName0=o = 0
| | | | | | | | | | lastName1=m = 1: +
| | | | | | | | | | lastName1=m = 0

| | | | | | | | | | | | lastName2=y = 1: +
| | | | | | | | | | | | lastName2=y = 0: -

Correctly Classified Instances   12   85.7143 %
Incorrectly Classified Instances   2   14.2857 %
Kappa statistic   0.6585
Mean absolute error   0.1429
Root mean squared error   0.378
Relative absolute error   30.7692 %
Root relative squared error   78.8263 %
Total Number of Instances   14

ID3
Fold5:
lastName4=o = 1: +
lastName4=o = 0
| firstName0=l = 1: +
| firstName0=l = 0
| | firstName0=d = 1
| | | lastName0=p = 1: -
| | | lastName0=p = 0: +
| | firstName0=d = 0
| | | firstName4=h = 1: +
| | | firstName4=h = 0
| | | | lastName2=o = 1: +
| | | | lastName2=o = 0
| | | | | firstName0=k = 1
| | | | | | firstName1=a = 1: -
| | | | | | firstName1=a = 0: +
| | | | | firstName0=k = 0
| | | | | | firstName2=h = 1
| | | | | | | firstName3=a = 1: -
| | | | | | | firstName3=a = 0: +
| | | | | | firstName2=h = 0: -

Correctly Classified Instances   9   75   %
Incorrectly Classified Instances   3   25   %
Kappa statistic   0.4
Mean absolute error   0.25
Root mean squared error   0.5
Relative absolute error   63.6364 %
Root relative squared error   115.0793 %
Total Number of Instances   12

Average:58.38882866%

Evaluation from the SGD

Evaluation of data in Fold:1

Correctly Classified Instances   8   61.5385 %
Incorrectly Classified Instances   5   38.4615 %
Kappa statistic   0.2529
Mean absolute error   0.3846
Root mean squared error   0.6202
Relative absolute error   77.3196 %
Root relative squared error   124.3968 %
Total Number of Instances   13

Evaluation of data in Fold:2

Correctly Classified Instances   7   53.8462 %
Incorrectly Classified Instances   6   46.1538 %
Kappa statistic   0.093
Mean absolute error   0.4615
Root mean squared error   0.6794
Relative absolute error   92.7835 %
Root relative squared error   136.2698 %
Total Number of Instances   13

Evaluation of data in Fold:3

Correctly Classified Instances   9   69.2308 %
Incorrectly Classified Instances   4   30.7692 %
Kappa statistic   0.35
Mean absolute error   0.3077
Root mean squared error   0.5547
Relative absolute error   61.8557 %
Root relative squared error   111.2638 %
Total Number of Instances   13

Evaluation of data in Fold:4

Correctly Classified Instances   4   30.7692 %
Incorrectly Classified Instances   9   69.2308 %
Kappa statistic   -0.3448
Mean absolute error   0.6923
Root mean squared error   0.8321
Relative absolute error   158.8235 %
Root relative squared error   180   %
Total Number of Instances   13

Evaluation of data in Fold:5

```
Correctly Classified Instances           6              46.1538 %
Incorrectly Classified Instances         7              53.8462 %
Kappa statistic                    -0.0964
Mean absolute error                 0.5385
Root mean squared error              0.7338
Relative absolute error            112.9032 %
Root relative squared error         150.7557 %
Total Number of Instances           13
```

Average:52.307692307692314%

Evaluation from the ID3 with maximun depth of 4

Evaluation of data in Fold:1

```
Correctly Classified Instances           7              53.8462 %
Incorrectly Classified Instances         6              46.1538 %
Kappa statistic                     0.1136
Mean absolute error                 0.4505
Root mean squared error              0.5509
Relative absolute error             90.5744 %
Root relative squared error         110.5075 %
Total Number of Instances           13
```

Evaluation of data in Fold:2

```
Correctly Classified Instances           6              46.1538 %
Incorrectly Classified Instances         7              53.8462 %
Kappa statistic                     0
Mean absolute error                 0.5136
Root mean squared error              0.5734
Relative absolute error            103.2591 %
Root relative squared error         115.0071 %
Total Number of Instances           13
```

Evaluation of data in Fold:3

```
Correctly Classified Instances           8              61.5385 %
Incorrectly Classified Instances         5              38.4615 %
Kappa statistic                     0.2697
Mean absolute error                 0.3846
Root mean squared error              0.494
Relative absolute error             77.3196 %
Root relative squared error         99.0968 %
Total Number of Instances           13
```

Evaluation of data in Fold:4

Correctly Classified Instances	9	69.2308 %
Incorrectly Classified Instances	4	30.7692 %
Kappa statistic	0.2778	
Mean absolute error	0.433	
Root mean squared error	0.5334	
Relative absolute error	99.3464 %	
Root relative squared error	115.3845 %	
Total Number of Instances	13	

Evaluation of data in Fold:5

Correctly Classified Instances	4	30.7692 %
Incorrectly Classified Instances	9	69.2308 %
Kappa statistic	-0.1584	
Mean absolute error	0.622	
Root mean squared error	0.6777	
Relative absolute error	130.4147 %	
Root relative squared error	139.2209 %	
Total Number of Instances	13	

Average the ID3 with maximun depth of 4:52.307692307692314%

Evaluation from the ID3 with maximun depth of 8

Evaluation of data in Fold:1

Correctly Classified Instances	44	74.5763 %
Incorrectly Classified Instances	15	25.4237 %
Kappa statistic	0.3959	
Mean absolute error	0.3418	
Root mean squared error	0.4799	
Relative absolute error	75.9922 %	
Root relative squared error	101.3736 %	
Total Number of Instances	59	

Evaluation of data in Fold:2

Correctly Classified Instances	42	71.1864 %
Incorrectly Classified Instances	17	28.8136 %
Kappa statistic	0.3144	
Mean absolute error	0.3858	
Root mean squared error	0.4774	
Relative absolute error	82.3099 %	
Root relative squared error	98.721 %	

Total Number of Instances   59

Evaluation of data in Fold:3

Correctly Classified Instances   32   54.2373 %
Incorrectly Classified Instances   27   45.7627 %
Kappa statistic   0.1233
Mean absolute error   0.4251
Root mean squared error   0.5804
Relative absolute error   86.9728 %
Root relative squared error   117.4436 %
Total Number of Instances   59

Evaluation of data in Fold:4

Correctly Classified Instances   44   74.5763 %
Incorrectly Classified Instances   15   25.4237 %
Kappa statistic   0.4923
Mean absolute error   0.3429
Root mean squared error   0.4791
Relative absolute error   69.055 %
Root relative squared error   96.1664 %
Total Number of Instances   59

Evaluation of data in Fold:5

Correctly Classified Instances   37   63.7931 %
Incorrectly Classified Instances   21   36.2069 %
Kappa statistic   0.2491
Mean absolute error   0.3965
Root mean squared error   0.5591
Relative absolute error   81.6435 %
Root relative squared error   113.5132 %
Total Number of Instances   58

Average of the ID3 with maximun depth of 8:67.68707482993197%

Evaluation from the ID3 whole decision tree

Evaluation of data in Fold:1

Correctly Classified Instances   44   74.5763 %
Incorrectly Classified Instances   15   25.4237 %
Kappa statistic   0.4395
Mean absolute error   0.2542
Root mean squared error   0.5042

Relative absolute error	56.5164 %
Root relative squared error	106.5117 %
Total Number of Instances	59

Evaluation of data in Fold:2

Correctly Classified Instances	44	74.5763 %
Incorrectly Classified Instances	15	25.4237 %
Kappa statistic	0.4614	
Mean absolute error	0.2542	
Root mean squared error	0.5042	
Relative absolute error	54.2383 %	
Root relative squared error	104.2661 %	
Total Number of Instances	59	

Evaluation of data in Fold:3

Correctly Classified Instances	36	61.0169 %
Incorrectly Classified Instances	23	38.9831 %
Kappa statistic	0.2223	
Mean absolute error	0.3898	
Root mean squared error	0.6244	
Relative absolute error	79.7612 %	
Root relative squared error	126.3499 %	
Total Number of Instances	59	

Evaluation of data in Fold:4

Correctly Classified Instances	47	79.661 %
Incorrectly Classified Instances	12	20.339 %
Kappa statistic	0.5879	
Mean absolute error	0.2034	
Root mean squared error	0.451	
Relative absolute error	40.9625 %	
Root relative squared error	90.5228 %	
Total Number of Instances	59	

Evaluation of data in Fold:5

Correctly Classified Instances	38	65.5172 %
Incorrectly Classified Instances	20	34.4828 %
Kappa statistic	0.2978	
Mean absolute error	0.3448	
Root mean squared error	0.5872	
Relative absolute error	71.0059 %	
Root relative squared error	119.2275 %	
Total Number of Instances	58	

Average of the ID3 wholetree:71.08843537414967%

Decision Stump:
Evaluation of data in Fold:1

Correctly Classified Instances	7	53.8462 %
Incorrectly Classified Instances	6	46.1538 %
Kappa statistic	0.093	
Mean absolute error	0.4615	
Root mean squared error	0.6794	
Relative absolute error	92.7835 %	
Root relative squared error	136.2698 %	
Total Number of Instances	13	

Evaluation of data in Fold:2

Correctly Classified Instances	11	84.6154 %
Incorrectly Classified Instances	2	15.3846 %
Kappa statistic	0.6905	
Mean absolute error	0.1538	
Root mean squared error	0.3922	
Relative absolute error	30.9278 %	
Root relative squared error	78.6754 %	
Total Number of Instances	13	

Evaluation of data in Fold:3

Correctly Classified Instances	8	61.5385 %
Incorrectly Classified Instances	5	38.4615 %
Kappa statistic	0.2353	
Mean absolute error	0.3846	
Root mean squared error	0.6202	
Relative absolute error	77.3196 %	
Root relative squared error	124.3968 %	
Total Number of Instances	13	

Evaluation of data in Fold:4

Correctly Classified Instances	7	53.8462 %
Incorrectly Classified Instances	6	46.1538 %
Kappa statistic	0.2353	
Mean absolute error	0.4615	
Root mean squared error	0.6794	
Relative absolute error	105.8824 %	
Root relative squared error	146.9694 %	
Total Number of Instances	13	

Evaluation of data in Fold:5

Correctly Classified Instances	8	61.5385 %
Incorrectly Classified Instances	5	38.4615 %
Kappa statistic	0.2697	
Mean absolute error	0.3846	
Root mean squared error	0.6202	
Relative absolute error	80.6452 %	
Root relative squared error	127.4118 %	
Total Number of Instances	13	

Average: 63.07692307692307%