The following are the accuracies for the given 9 classifiers using the best parameter values to maximize the accuracy:

| Accuracy: Dataset 1 |                            |            |              |              |            |              |            |            |              |              |              |                |
|---------------------|----------------------------|------------|--------------|--------------|------------|--------------|------------|------------|--------------|--------------|--------------|----------------|
| Method              | Best Parameters            | Sampl      | <u>Sampl</u> | <u>Sampl</u> | Sampl      | <u>Sampl</u> | Sampl      | Sampl      | <u>Sampl</u> | <u>Sampl</u> | <u>Sampl</u> | Averag         |
|                     |                            | <u>e 1</u> | <u>e 2</u>   | <u>e 3</u>   | <u>e 4</u> | <u>e 5</u>   | <u>e 6</u> | <u>e 7</u> | <u>e 8</u>   | <u>e 9</u>   | <u>e 10</u>  | <u>e of 10</u> |
|                     |                            |            |              |              |            |              |            |            |              |              |              | <u>sample</u>  |
|                     |                            |            |              |              |            |              |            |            |              |              |              | <u>s</u>       |
| Decision            | minbucket = 2              | 100        | 100          | 100          | 100        | 100          | 100        | 100        | 100          | 100          | 100          | 100            |
| Tree                |                            |            |              |              |            |              |            |            |              |              |              |                |
| Naïve               |                            | 97         | 98.5         | 97           | 98         | 96           | 97         | 98         | 97.5         | 97.5         | 99           | 97.55          |
| Bayesian            |                            |            |              |              |            |              |            |            |              |              |              |                |
| SVM                 | kernel = radial            | 95         | 96.5         | 97.5         | 95.5       | 97           | 94.5       | 96.5       | 93.5         | 95           | 95           | 95.6           |
| kNN                 | k =100                     | 86.5       | 86.5         | 84.5         | 87.5       | 82.5         | 82.5       | 83         | 88           | 82.5         | 84.5         | 84.8           |
| Logistic            | Threshold = 0.65, family = | 95         | 95.5         | 97           | 96         | 93.5         | 95         | 95         | 96.5         | 92.5         | 94.5         | 95.05          |
| Regression          | "binomial"                 |            |              |              |            |              |            |            |              |              |              |                |
| Neural              | size=6,maxit=500,decay=    | 100        | 99.5         | 99.5         | 90         | 100          | 99.5       | 100        | 85           | 100          | 87           | 96.05          |
| Network             | 0.01                       |            |              |              |            |              |            |            |              |              |              |                |
| Bagging             | mfinal=5,maxdepth=2        | 100        | 99.5         | 100          | 100        | 100          | 99.5       | 100        | 99.5         | 100          | 99.5         | 99.8           |
| Random              |                            | 100        | 100          | 100          | 100        | 100          | 100        | 100        | 100          | 100          | 100          | 100            |
| Forest              |                            |            |              |              |            |              |            |            |              |              |              |                |
| Boosting            | mfinal=5, maxdepth =3      | 100        | 100          | 100          | 100        | 100          | 100        | 100        | 100          | 100          | 100          | 100            |

|                        | Accuracy : Dataset 2                     |              |              |              |              |                            |              |                            |              |              |                             |                       |  |  |
|------------------------|--|--------------|--------------|--------------|--------------|----------------------------|--------------|----------------------------|--------------|--------------|-----------------------------|-----------------------|--|--|
| Method                 | Best Parameters                          | Sampl<br>e 1 | Sampl<br>e 2 | Sampl<br>e 3 | Sampl<br>e 4 | <u>Sampl</u><br><u>e 5</u> | Sampl<br>e 6 | <u>Sampl</u><br><u>e 7</u> | Sampl<br>e 8 | Sampl<br>e 9 | <u>Sampl</u><br><u>e 10</u> | Average of 10 samples |  |  |
| Decision Tree          | minbucket = 10                           | 70           | 65           | 67.5         | 77.5         | 62.5                       | 65           | 67.5                       | 70           | 72.5         | 77.5                        | 69.5                  |  |  |
| Naïve<br>Bayesian      |  | 72.5         | 72.5         | 70           | 82.5         | 70                         | 62.5         | 77.5                       | 67.5         | 65           | 65                          | 70.5                  |  |  |
| SVM                    | kernel = linear                          | 80           | 72.5         | 70           | 70           | 82.5                       | 65           | 82.5                       | 75           | 62.5         | 62.5                        | 72.25                 |  |  |
| kNN                    | k =2000                                  | 70           | 80           | 75           | 65           | 72.5                       | 67.5         | 70                         | 75           | 67.5         | 67.5                        | 71                    |  |  |
| Logistic<br>Regression | Threshold = 0.80,<br>family = "binomial" | 80           | 67.5         | 72.5         | 70           | 65                         | 65           | 70                         | 77.5         | 65           | 75                          | 70.75                 |  |  |
| Neural<br>Network      | size=9,maxit=1000,dec<br>ay=0.1          | 82.5         | 75           | 62.5         | 67.5         | 65                         | 72.5         | 75                         | 67.5         | 70           | 80                          | 71.75                 |  |  |
| Bagging                | mfinal=15,maxdepth=<br>5                 | 80           | 67.5         | 72.5         | 75           | 85                         | 72.5         | 62.5                       | 72.5         | 77.5         | 67.5                        | 73.25                 |  |  |
| Random<br>Forest       |  | 67.5         | 70           | 80           | 62.5         | 65                         | 62.5         | 67.5                       | 77.5         | 75           | 82.5                        | 71                    |  |  |
| Boosting               | mfinal=10, maxdepth<br>=1                | 72.5         | 70           | 80           | 62.5         | 70                         | 70           | 67.5                       | 60           | 60           | 67.5                        | 68                    |  |  |

| Accuracy : Dataset 3 |                          |             |             |             |             |             |             |             |             |             |              |            |
|----------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|------------|
| Method               | Best Parameters          | Samp        | <u>Sampl</u> | Average of |
|                      |                          | <u>le 1</u> | <u>le 2</u> | <u>le 3</u> | <u>le 4</u> | <u>le 5</u> | <u>le 6</u> | <u>le 7</u> | <u>le 8</u> | <u>le 9</u> | <u>e 10</u>  | 10 samples |
| Decision             | minbucket = 18           | 70          | 75          | 70          | 80          | 70          | 75          | 95          | 80          | 55          | 70           | 74         |
| Tree                 |                          |             |             |             |             |             |             |             |             |             |              |            |
| Naïve                |                          | 60          | 75          | 75          | 80          | 70          | 80          | 45          | 60          | 70          | 60           | 67.5       |
| Bayesian             |                          |             |             |             |             |             |             |             |             |             |              |            |
| SVM                  | kernel = polynomial      | 95          | 80          | 70          | 85          | 90          | 80          | 100         | 90          | 65          | 90           | 81.5       |
| kNN                  | k =15                    | 65          | 75          | 80          | 85          | 90          | 85          | 100         | 85          | 60          | 85           | 81         |
| Logistic             | Threshold=0.55, family = | 80          | 70          | 80          | 90          | 70          | 95          | 80          | 100         | 75          | 85           | 82.5       |
| Regression           | "binomial"               |             |             |             |             |             |             |             |             |             |              |            |
| Neural               | size=4,maxit=2000,decay= | 75          | 85          | 75          | 75          | 90          | 75          | 85          | 75          | 75          | 90           | 80         |
| Network              | 0.001                    |             |             |             |             |             |             |             |             |             |              |            |
| Bagging              | mfinal=20,maxdepth=3     | 75          | 80          | 80          | 80          | 95          | 85          | 80          | 90          | 80          | 85           | 83         |
| Random               |                          | 85          | 85          | 75          | 85          | 75          | 80          | 75          | 70          | 80          | 80           | 79         |
| Forest               |                          |             |             |             |             |             |             |             |             |             |              |            |
| Boosting             | mfinal=20, maxdepth =3   | 75          | 75          | 80          | 80          | 100         | 85          | 70          | 85          | 60          | 100          | 82.69152   |

| Accuracy : Dataset 4 |                          |             |             |             |             |             |             |             |             |             |             |            |
|----------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| Method               | Best Parameters          | Samp        | Sampl       | Average of |
|                      |                          | <u>le 1</u> | <u>le 2</u> | <u>le 3</u> | <u>le 4</u> | <u>le 5</u> | <u>le 6</u> | <u>le 7</u> | <u>le 8</u> | <u>le 9</u> | <u>e 10</u> | 10 samples |
| Decision             | minbucket = 4            | 91.22       | 94.73       | 92.98       | 92.98       | 98.24       | 94.73       | 96.49       | 92.98       | 98.24       | 87.719      | 94.035     |
| Tree                 |                          | 807         | 684         | 246         | 246         | 561         | 684         | 123         | 246         | 561         | 3           |            |
| Naïve                |                          | 89.47       | 87.71       | 96.49       | 92.98       | 94.73       | 89.47       | 94.73       | 92.98       | 92.98       | 92.982      | 92.456141  |
| Bayesian             |                          | 368         | 93          | 123         | 246         | 684         | 368         | 684         | 246         | 246         | 46          |            |
| SVM                  | kernel = radial          | 98.24       | 96.49       | 100         | 96.49       | 100         | 94.73       | 100         | 96.49       | 100         | 98.245      | 98.07018   |
|                      |                          | 561         | 123         |             | 123         |             | 684         |             | 123         |             | 61          |            |
| kNN                  | k =3                     | 91.22       | 80.70       | 71.92       | 82.45       | 84.21       | 66.66       | 73.68       | 70.17       | 84.21       | 82.456      | 78.77193   |
|                      |                          | 807         | 175         | 982         | 614         | 053         | 667         | 421         | 544         | 053         | 14          |            |
| Logistic             | Threshold=0.65, family = | 96.49       | 98.24       | 91.22       | 98.24       | 96.49       | 96.49       | 96.49       | 92.98       | 94.73       | 98.245      | 95.96491   |
| Regression           | "binomial"               | 123         | 561         | 807         | 561         | 123         | 123         | 123         | 246         | 684         | 61          |            |
| Neural               | size=5,maxit=500,decay=0 | 93          | 93          | 96.5        | 77          | 98          | 94.7        | 94.7        | 73.6        | 93          | 68.4        | 88.19      |
| Network              | .06                      |             |             |             |             |             |             |             |             |             |             |            |
| Bagging              | mfinal=10,maxdepth=3     | 94.73       | 98.24       | 100         | 94.73       | 96.49       | 91.22       | 96.49       | 89.47       | 94.73       | 96.491      | 95.26316   |
|                      |                          | 68          | 561         |             | 684         | 123         | 807         | 123         | 368         | 68          | 23          |            |
| Random               |                          | 98.24       | 96.49       | 96.49       | 98.24       | 94.73       | 100         | 94.73       | 80          | 93          | 93          | 94.492     |
| Forest               |                          |             |             |             |             |             |             |             |             |             |             |            |
| Boosting             | mfinal=10, maxdepth =3   | 96.49       | 98.24       | 100         | 92.98       | 100         | 92.98       | 98.24       | 92.98       | 100         | 98.245      | 88.2114    |
|                      |                          | 123         | 561         |             | 246         |             | 246         | 561         | 246         |             | 61          |            |

| Accuracy : Dataset 5 |                          |             |             |             |             |             |             |             |             |             |             |            |
|----------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| Method               | Best Parameters          | Samp        | Sampl       | Average of |
|                      |                          | <u>le 1</u> | <u>le 2</u> | <u>le 3</u> | <u>le 4</u> | <u>le 5</u> | <u>le 6</u> | <u>le 7</u> | <u>le 8</u> | <u>le 9</u> | <u>e 10</u> | 10 samples |
| Decision             | minbucket = 2            | 97.14       | 91.42       | 88.57       | 94.28       | 82.85       | 88.57       | 80          | 94.28       | 82.85       | 97.142      | 89.71429   |
| Tree                 |                          | 286         | 857         | 143         | 57          | 714         | 143         |             | 571         | 714         | 86          |            |
| Naïve                |                          | 85.71       | 94.28       | 85.71       | 88.57       | 91.42       | 97.14       | 88.57       | 85.71       | 91.42       | 94.285      | 90.28571   |
| Bayesian             |                          | 429         | 571         | 429         | 143         | 857         | 286         | 143         | 429         | 857         | 71          |            |
| SVM                  | kernel = radial          | 94.28       | 97.14       | 88.57       | 91.42       | 97.14       | 97.14       | 94.28       | 97.14       | 82.85       | 91.428      | 93.14286   |
|                      |                          | 571         | 286         | 143         | 857         | 286         | 286         | 571         | 286         | 714         | 57          |            |
| kNN                  | k =6                     | 82.85       | 82.85       | 80          | 85.71       | 80          | 82.85       | 85.71       | 100         | 88.57       | 94.285      | 86.28571   |
|                      |                          | 714         | 714         |             | 429         |             | 71          | 429         |             | 143         | 71          |            |
| Logistic             | Threshold=0.15, family = | 91.42       | 94.28       | 91.42       | 80          | 88.57       | 85.71       | 91.42       | 91.42       | 80          | 82.857      | 87.71429   |
| Regression           | "binomial"               | 857         | 571         | 857         |             | 143         | 429         | 857         | 857         |             | 14          |            |
| Neural               | size=5,maxit=500,decay=0 | 94.44       | 95          | 80.5        | 91.67       | 91.67       | 91.67       | 86          | 97          | 100         | 91.67       | 91.962     |
| Network              | .06                      |             |             |             |             |             |             |             |             |             |             |            |
| Bagging              | mfinal=15,maxdepth=2     | 94.28       | 94.28       | 88.57       | 80          | 88.57       | 100         | 82.85       | 91.42       | 94.28       | 91.428      | 90.57143   |
|                      |                          | 571         | 571         | 143         |             | 143         |             | 714         | 857         | 571         | 57          |            |
| Random               |                          | 94.44       | 100         | 97.22       | 91.67       | 94.44       | 91.67       | 97.22       | 88.88       | 91.67       | 88.88       | 93.609     |
| Forest               |                          |             |             |             |             |             |             |             |             |             |             |            |
| Boosting             | mfinal=10, maxdepth =3   | 97.14       | 97.14       | 94.28       | 85.71       | 85.71       | 94.28       | 85.71       | 88.57       | 94.28       | 94.285      | 89.19182   |
|                      |                          | 286         | 286         | 571         | 429         | 429         | 571         | 429         | 143         | 571         | 71          |            |