1 Task

Your task is to write a handwriting recognizer for the digits 0 through 9. Given a bitmap of a particular digit, the completed system should be able to classify it as one of the ten digits with a reasonable degree of accuracy.

To aid you in this task, you will be given a file containing nearly 2000 correctly-labelled instances of hand-written digits, evenly distributed among all ten classes. You are free to train with this data set using any algorithm you think is best-suited to the task. Your submission should contain the code and compiled models necessary for us to read and execute the system against our own evaluation set.

Files needed:  
1) recognizer.java (my solution)

2) train-digits.arff (provided to me)

3) ocr-1.0-jar-with-dependencies (provided to me)

Note that the solution is knn based and requires no separate model files.

Sample output:

Please input k value:

3

Reading in arff file...

number of elements in training set 1135

number of elements in test set 758

Do you want to print out classification results and correct classification? yes/no

no

Error rate in percents: 11.345646437994723

To allow printing output, answer ‘yes’:

Sample output with classification results:

Please input k value:

3

Reading in arff file...

number of elements in training set 1135

number of elements in test set 758

Do you want to print out classification results and correct classification? yes/no

yes

Classifier result for current test instance: 1 correct classification: 1

Classifier result for current test instance: 2 correct classification: 2

Classifier result for current test instance: 3 correct classification: 3

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Error rate in percents: 11.345646437994723