

1: Naïve bayes

```
Calculating naive Bayes classifiers and predictions based on them
0 / 10000
1000 / 10000
2000 / 10000
3000 / 10000
4000 / 10000
5000 / 10000
6000 / 10000
7000 / 10000
8000 / 10000
9000 / 10000
Naive Bayes classifier accuracy: 0.1935
```

2: Better bayes

```
Calculating better Bayes classifiers and predictions based on them
0 / 10000
1000 / 10000
2000 / 10000
3000 / 10000
4000 / 10000
5000 / 10000
6000 / 10000
7000 / 10000
8000 / 10000
9000 / 10000
Better Bayes classifier accuracy: 0.2436
```

3:

2x2 images:

```
Calculating better Bayes classifiers and predictions based on them
0 / 10000
1000 / 10000
2000 / 10000
3000 / 10000
4000 / 10000
5000 / 10000
6000 / 10000
7000 / 10000
8000 / 10000
9000 / 10000
2x2 Bayes classifier accuracy: 0.3097
```

Larger than 2x2 images:

```
Random accuracy: 0.101
Resizing test images to 4x4px
Calculating average colors for training data
Calculating better p
Calculating better mu
Calculating better sigma
Calculating better Bayes classifiers and predictions based on them
0 / 10000
1000 / 10000
2000 / 10000
3000 / 10000
4000 / 10000
5000 / 10000
6000 / 10000
7000 / 10000
8000 / 10000
9000 / 10000
4x4 Bayes classifier accuracy: 0.4021
Resizing test images to 8x8px
Calculating average colors for training data
Calculating better p
Calculating better mu
Calculating better sigma
Calculating better Bayes classifiers and predictions based on them
0 / 10000
1000 / 10000
2000 / 10000
3000 / 10000
4000 / 10000
5000 / 10000
6000 / 10000
7000 / 10000
8000 / 10000
9000 / 10000
8x8 Bayes classifier accuracy: 0.321
```

Seems that 4x4 images gave the best results. 16x16 gave a result of 0 so something probably went wrong but it took a very long time to compute. Did not have enough memory for 32x32 image calculations

```
Resizing test images to 16x16px
Calculating average colors for training data
Calculating better p
Calculating better mu
Calculating better sigma
Calculating better Bayes classifiers and predictions based on them
0 / 10000
1000 / 10000
2000 / 10000
3000 / 10000
4000 / 10000
5000 / 10000
6000 / 10000
7000 / 10000
8000 / 10000
9000 / 10000
16x16 Bayes classifier accuracy: 0.0
```

Accuracy graphed

