1. The data has been generated, gathered. The file DS1 has been sent with the code.

2. Here is all the measure asked to calculate.
```
The accuracy of this classifier is  0.9566666666666667
The precision of this classifier is  0.9633333333333334
The recall of this classifier is  0.9506578947368421
The F-measure of this classifier is  1.0066225165562914
```

3. As for the K-NN approach, here are the results we get:
```
The accuracy of this classifier is  0.5
The precision of this classifier is  0.335
The recall of this classifier is  0.5
The F-measure of this classifier is  0.8023952095808384
The best k value is: 3
```

   Indeed, this approach works better for small values of k, the larger k, the accurcy drops.

4. Again, following the instructions, data has been read, gathered and split as necessary. (see code)

5. Repeating the same experiments in 2 and 3 on this dataset, we get the following:
```
The accuracy of this classifier is  0.4841666666666667
The precision of this classifier is  0.4819277108433735
The recall of this classifier is  0.4835924006908463
The F-measure of this classifier is  0.9982758620689655
```

   now the results for the K-NN:
```
The accuracy of this classifier is  0.5
The precision of this classifier is  0.765
The recall of this classifier is  0.5
The F-measure of this classifier is  1.209486166007905
The best k value is: 1
```

6. As we can see from the results, the K-NN approach works pretty much the same for both datasets, however, The LDA method performs way better with the first dataset than the second one, in fact, for dataset2, the K-NN method performs better.