```
>> run('QAMSVM.m')

ans =

  3×2 table

    Label    Count
    _____    _____

    16QAM     150
    32QAM     150
    64QAM     150


ans =

  3×2 table

    Label    Count
    _____    _____

    16QAM     150
    32QAM     150
    64QAM     150


Creating Bag-Of-Features.
-------------------------
* Image category 1: 16QAM
* Image category 2: 32QAM
* Image category 3: 64QAM
* Selecting feature point locations using the Grid method.
* Extracting SURF features from the selected feature point locations.
** The GridStep is [8 8] and the BlockWidth is [32 64 96 128].

* Extracting features from 450 images...done. Extracted 16088400 features.

* Keeping 80 percent of the strongest features from each category.

* Using K-Means clustering to create a 500 word visual vocabulary.
* Number of features          : 12870720
* Number of clusters (K)      : 500

* Initializing cluster centers...100.00%.
* Clustering...completed 19/100 iterations (~38.58 seconds/iteration)...converged in ↙
19 iterations.

* Finished creating Bag-Of-Features
```

```
Training an image category classifier for 3 categories.
--------------------------------------------------------
* Category 1: 16QAM
* Category 2: 32QAM
* Category 3: 64QAM

* Encoding features for 450 images...done.

* Finished training the category classifier. Use evaluate to test the classifier on a ↙
test set.


Evaluating image category classifier for 3 categories.
-------------------------------------------------------

* Category 1: 16QAM
* Category 2: 32QAM
* Category 3: 64QAM

* Evaluating 450 images...done.

* Finished evaluating all the test sets.

* The confusion matrix for this test set is:


                  PREDICTED
KNOWN    | 16QAM   32QAM   64QAM
-----------------------------------
16QAM    | 1.00    0.00    0.00
32QAM    | 0.00    1.00    0.00
64QAM    | 0.00    0.00    1.00

* Average Accuracy is 1.00.


confMatrix =

     1     0     0
     0     1     0
     0     0     1


ans =

     1

Elapsed time is 1586.054921 seconds.
```

```
>>
```