****Practical 4-Visual Solutions****

Machine learning and Pattern recognition

**Disclaimer: Please be aware that your results may be slightly different depending on your parameters, etc.. This is just for visual help.**

****TASK 1: Nearest Neighbour Classifier****

**Step 3**: Acc=1 (100%).

****TASK 2: K-Nearest Neighbour Extension****

**Step 2**: k=1 🡪 Acc=1

K=3 🡪 Acc=1

K=5 🡪 Acc=1

K=10 🡪 Acc=1

****TASK 3: Binary SVM Classifier****

**Step 3**: Acc=1

(SVM\_v2🡪 Acc=1)

****TASK 4: Multiclass Classification****

**Step 3**: NN 🡪 Acc=0.835

3-NN 🡪 Acc=0.830

5-NN 🡪 Acc=0.850

10-NN 🡪 Acc=0.855

SVM 🡪 Acc=0.9050

****TASK 5: From Classification to Detection: Sliding Window****

**Step 4**: with previous SVM 🡪 Acc=0.38

**Step 5**: Acc= 0.780

solutionImage =

7 2 1 0 4 1 4 9 6 9

2 6 4 0 1 3 4 7 3 9

8 6 4 5 4 2 7 4 2 1

3 1 3 4 7 2 7 1 2 1

1 7 4 4 3 5 1 2 4 4

Graphycally:



**Step 7**:

Map image:



Filtered solution image:

