**מבוא ללמידה וניתוח מידע רב - עבודה 3**

1.b)

|  |  |  |  |
| --- | --- | --- | --- |
| K \ Lambda | 0.01 | 0.1 | 1 |
| 3 | 0.0720 | 0.0710 | 0.0690 |
| 6 | 0.0790 | 0.0780 | 0.0720 |
| 10 | 0.0840 | 0.0830 | 0.0780 |

The optimal pair is (K,Lambda) = (3,1).

The error rate for (3,1) on the entire test set is: 0.0700.

1.c)

Define psi as:

psi = @(x)

[1,x(1),x(2),x(1)\*x(2),x(1)^2,x(2)^2,x(1)^2\*x(2),x(1)\*x(2)^2,x(1)^3,x(2)^3];

By using the formula at lecture 8 slide 11 (**Representor Theorem**), we achieve the separator:

W = [ 0.0034 0.0887 0.0884 -0.0022 0.0025 0.0040 0.0284 0.0222 0.1245 0.1264 ]

The resulting multivariate polynomial is:

