11.

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| --- | --- |
|  | It seems that when logC increases, ||W||will also increase. During logC=-3 and logC=1, ||W|| increase sharply. However, during logC < -3 and logC > 1, ||W|| increase very slowly. |

12.

|  |  |
| --- | --- |
|  | No matter what logC is, Ein almost has no changing. It seems that logC values don’t affect the Ein value. This may because the result has been the optimal one. |

13.

|  |  |
| --- | --- |
|  | In the picture, there is a peak at logC = -1 and logC = -3, where there are the most and the second most # of support vectors. This may because at especially logC = -3 there are the most points on or in the margin. |

14.

|  |  |
| --- | --- |
|  | It is obvious that when logC decreases, the distance increases meanwhile. Especially when logC = -3, the distance comes to almost 8, which means the value of ||W|| is very small. |

15.

|  |  |
| --- | --- |
|  | In this plot, Eout is higher when logGamma = 3 and 4, while the Eout is lower than 0.12 when LogGamma < 3. Although all the Eouts are not large in fact, there still seems to have a bound between logGamma = 3. Too large gamma seems not improving the performance. |

16.

|  |  |
| --- | --- |
|  | It is obvious that logGamma = 1 is selected with a large amount. It seems that logGamma = 1 is a good choice according to validation. |