想法：

示例中的训练数据：2015-1-1到2015-2-19日，刚好为7周，需要预测的时间为2015-2-20到2015-2-27，刚好为1周。

因此我先按照7天为一周，对于训练集数据进行计数，数据结构为：

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Flavor  Week | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | 1.1-1.7 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 0 | 4 | 8 | 0 | 0 | 6 |
| 2 | 1.8-1.14 | 0 | 0 | 3 | 1 | 14 | 1 | 1 | 5 | 3 | 0 | 2 | 14 | 0 | 27 | 7 |
| 3 | 1.15-1.21 | 0 | 0 | 1 | 1 | 4 | 3 | 0 | 9 | 8 | 0 | 5 | 5 | 0 | 0 | 19 |
| 4 | 1.22-1.28 | 0 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 5 | 1 | 0 | 9 | 0 |
| 5 | 1.29-2.5 | 0 | 2 | 3 | 0 | 5 | 8 | 1 | 17 | 1 | 0 | 14 | 0 | 0 | 4 | 0 |
| 6 | 2.6-2.12 | 2 | 4 | 1 | 1 | 4 | 0 | 4 | 12 | 6 | 0 | 3 | 9 | 1 | 4 | 1 |
| 7 | 2.13-2.19 | 1 | 2 | 1 | 0 | 3 | 3 | 11 | 28 | 8 | 4 | 4 | 1 | 0 | 0 | 0 |

然后设定拟合方程为：

(这个只是尝试)

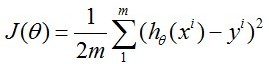
因此，对于flavor1而言，数据集为：

：从第三周到第七周的数据，即[0,0,0,2,1]

：从第二周到第六周的数据，即[0,0,0,0,2]

：从第一周到第五周的数据，即[0,0,0,0,0]

设定代价函数为：



经过梯度下降的训练，得到w1为0，w2为0.5，即

全部结果为：

|  |  |
| --- | --- |
| W1 | W2 |
| 0.5 | 0 |
| 0.5 | 0.6667 |
| 0.3750 | 0.3125 |
| 0.2500 | 0.5000 |
| 0.3554 | 0.1560 |
| 0.0399 | 0.6881 |
| 2.6000 | 0.3000 |
| 0.3731 | 1.3882 |
| 0.6771 | 0.0977 |
| 0 | 0 |
| 0.3519 | 0.4378 |
| 0.2369 | 0.0654 |
| 0 | 0 |
| 0.0411 | 0.3352 |
| 0.2578 | 0.1544 |