SENG 474 Fall 2018

Assignment2

Ex1: Logistic Regression

|  |  |  |  |
| --- | --- | --- | --- |
| GPA | GRE | Dummy | y |
| 1 | 1 | 1 | 1 |
| 0.9 | 1 | 1 | 1 |
| 0.9 | 0.875 | 1 | 1 |
| 0.7 | 0.75 | 1 | -1 |
| 0.6 | 0.875 | 1 | -1 |

|  |  |  |
| --- | --- | --- |
| GPA | GRE | Dummy |
| 1\*1/1+e0 = 0.5 | 1\*1/1+e0 = 0.5 | 1\*1/1+e0 = 0.5 |
| 1\*0.9/1+e0 = 0.45 | 1\*1/1+e0 = 0.5 | 1\*1/1+e0 = 0.5 |
| 1\*0.9/1+e0 = 0.45 | 1\*0.875/1+e0 = 0.4375 | 1\*1/1+e0 = 0.5 |
| -1\*0.7/1+e0= -0.35 | -1\*0.75/1+e0 = -0.375 | -1\*1/1+e0 = -0.5 |
| -1\*0.6/1+e0 = -0.3 | -1\*0.875/1+e0 = -0.4375 | -1\*1/1+e0 = -0.5 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | GPA | GRE | Dummy |
| Sum | 0.75 | 0.625 | 0.5 |
| Gradient | (-1/5) \*0.75 = -0.15 | (-1/5) \* 0.625 = -0.125 | (-1/5) \* 0.5 = -0.1 |

Therefore, new weight vector = 0 – 2\*[-0.15, -0.125, -0.1]

= [0.3, 0.25, 0.2]