## **Perceptron Evaluation**

How do you check the performance of the perceptron model

1. Training data

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **phone1** | **phone2** | **phone3** | **phone4** | **phone 5** | **phone 6** | **phone 7** | **phone8** | **phone9** |
| **Launch (within 6 months) x1** | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| **Weight (g) x2** | 0.19 | 0.63 | 0.33 | 1.00 | 0.36 | 0.66 | 0.00 | 0.70 | 0.48 |
| **Screen Size (< 5.9in) x3** | 0.64 | 0.87 | 0.67 | 0.88 | 0.70 | 0.91 | 0.00 | 1.00 | 0.47 |
| **Dual sim x4** | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| **Internal mem(>= 64gb, 4gb ram) x5** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **NFC x6** | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| **Radio x7** | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| **Battery (mAh) x8** | 0.36 | 0.51 | 0.36 | 1.00 | 0.34 | 0.67 | 0.00 | 0.57 | 0.43 |
| **Price? (k) x9** | 0.09 | 0.63 | 0.41 | 0.19 | 0.06 | 0.00 | 0.72 | 0.94 | 1.00 |
| **Liked (y)** | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |

1. Test data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **phone 10** | **phone 11** | **phone 12** | **phone 13** |
| **Launch (within 6 months) x1** | 1 | 0 | 0 | 1 |
| **Weight (g) x2** | 0.23 | 0.34 | 0.44 | 0.54 |
| **Screen Size (< 5.9in) x3** | 0.74 | 0.93 | 0.34 | 0.42 |
| **Dual sim x4** | 0 | 1 | 0 | 0 |
| **Internal mem(>= 64gb, 4gb ram) x5** | 1 | 0 | 0 | 0 |
| **NFC x6** | 0 | 0 | 1 | 0 |
| **Radio x7** | 1 | 1 | 1 | 0 |
| **Battery (mAh) x8** | 1 | 1 | 1 | 0 |
| **Price? (k) x9** | 0 | 0 | 1 | 0 |
| **Liked (y)** | 0 | 1 | 0 | 0 |
| **Prediction (ŷ)** | 0 | 1 | 1 | 0 |

1. Accuracy = ¾ = 75%