|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 3 |
| 0 | 0 | 0 | 1 | 2 | 3 |
| 1 | 0 | 0 | 0 | 1 | 2 |
| 2 | 1 | 0 | 0 | 0 | 1 |
| 3 | 2 | 1 | 0 | 0 | 0 |
| 3 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Centroid | 0.3375 | 1.3250 | 2.2000 | 3.1833 |
| Frequency | 16 | 8 | 6 | 6 |
| Code | 0 | 10 | 110 | 111 |

|  |  |
| --- | --- |
| **Possible Problems** | **Solutions** |
| Connectivity | For large IoT system, maintaining the connectivity of various devices is a major issue, we should adopt IoT communication protocols according to different situations, for example, we can replace HTTP protocol by CoAP protocol for constrained devices. |
| Security & Privacy | We can solve this problem by cryptographic approach and hardware-based approach, for example, for hardware-based approach, we can try to provide an isolated environment (hardware and software) for code/data (see Lecture 23, p. 18). |
| Cost | We can lower-down the cost of large IoT system by upgrading manufacture pipeline to reduce the marginal cost for each product and thus reducing the total cost. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0 | 0 | 10 | 110 | 111 | 111 |
| 0 | 0 | 0 | 10 | 110 | 111 |
| 10 | 0 | 0 | 0 | 10 | 110 |
| 110 | 10 | 0 | 0 | 0 | 10 |
| 111 | 110 | 10 | 0 | 0 | 0 |
| 111 | 111 | 110 | 10 | 0 | 0 |

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|  |
| --- |
| 0.3375 |
| 1.3250 |
| 2.2000 |
| 3.1833 |

3.1833

2.2000

1.3250

0.3375

16

12

8

20