**Ex1.**

A good hash function satisfies two basic properties:

1) it should be very fast to compute;

2) it should minimize duplication of output values (collisions).

**Ex2.**

|  |  |
| --- | --- |
| 0 |  |
| 1 | 20 |
| 2 |  |
| 3 |  |
| 4 | 16 ->5 |
| 5 | 44 ->88 ->11 |
| 6 | 94 ->39 |
| 7 | 12->23 |
| 8 |  |
| 9 | 13 |
| 10 |  |
|  |  |

Chaining

|  |  |
| --- | --- |
| 0 | 11 |
| 1 | 39 |
| 2 | 20 |
| 3 | 5 |
| 4 | 16 |
| 5 | 44 |
| 6 | 88 |
| 7 | 12 |
| 8 | 23 |
| 9 | 13 |
| 10 | 94 |

Liner probing

**Ex3.**

|  |  |
| --- | --- |
| 0 |  |
| 1 |  |
| 2 | 16 |
| 3 |  |
| 4 | 1->18->35 |
| 5 | 36 |
| 6 | 3->20 |
| 7 |  |
| 8 |  |
| 9 | 23 |
| 10 |  |
| 11 | 8 |
| 12 |  |
| 13 |  |
| 14 | 11 |
| 15 |  |
| 16 |  |

Separate chaining

|  |  |
| --- | --- |
| 0 |  |
| 1 |  |
| 2 | 16 |
| 3 |  |
| 4 | 1 |
| 5 | 18 |
| 6 | 3 |
| 7 | 35 |
| 8 | 36 |
| 9 | 23 |
| 10 | 20 |
| 11 | 8 |
| 12 |  |
| 13 |  |
| 14 | 11 |
| 15 |  |
| 16 |  |

Liner probing