1. What are two desirable properties of a hash function?

* Tính nhanh chóng
* Tính không trùng lặp

1. Draw the 11-entry hash that results from using the hash function h(i) = (2i+5) mod 11 to hash keys 12, 44, 13, 88, 23, 94, 11, 39, 20, 16, 5.
   1. Assume collisions are handled by chaining.

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

* 1. Assume collisions are handled by linear probing.

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

1. Draw the 17-entry hash that results from using the hash function h(i) = (i+3) mod 17 to hash keys 1, 3, 18, 8, 23, 35, 11, 36, 20, 16.
   1. Assume collisions are handled by chaining.

|  |  |
| --- | --- |
| 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 |  |

* 1. Assume collisions are handled by linear probing.

|  |  |
| --- | --- |
| 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 |  |