



DSA INT2210 21 - Assignment 4

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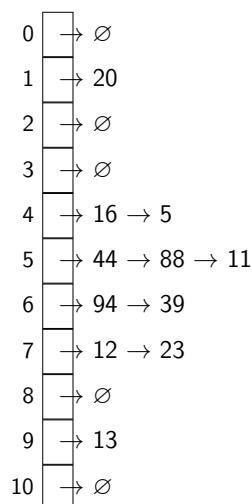
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1. What are two desirable properties of a hash function?

- (a) Tính toán hiệu quả (Efficiently computable).
- (b) Giảm thiểu sự trùng lặp đối với các giá trị đầu vào (minimize duplication of output values (collisions)).

2. Draw the 11-entry hash that results from using the hash function $h(i) = (2i + 5) \bmod 11$ to hash keys 12, 44, 13, 88, 23, 94, 11, 39, 20, 16, 5.

(a) Assume collisions are handled by chaining.

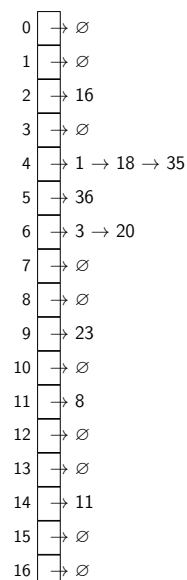


(b) Assume collisions are handled by linear probing.

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

3. Draw the 17-entry hash that results from using the hash function $h(i) = (i + 3) \bmod 17$ to hash keys 1, 3, 18, 8, 23, 35, 11, 36, 20, 16.

(a) Assume collisions are handled by chaining.



(b) Assume collisions are handled by linear probing.

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

4. The code file is attached below.