Assignment : 03

DSA V1

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Q# 1

① insert 6:
$$H_1(6) = 6 \text{ Mod } 17 = 6$$
6 → index 6.

② Insert B:
$$H_1(13) = 13 \text{ Mod } 17 = 13$$
13 → 13 index

③ Insert 17:
$$H_1(17) = 17 \text{ mod } 17 = 0$$
17 → index 0

④ Index 21:
$$H_1(21) = 21 \text{ mod } 17 = 4$$
21 → index 4

⑤ **Insert 28:**

$H_1(28) = 28 \bmod 11 = 11$

$28 \rightarrow$ index 11

⑥ **Insert 15:**

$H_1(15) = 15 \bmod 17 = 15$

$15 \rightarrow$ index 15

⑦ **Insert 33:**

$H_1(33) = 33 \bmod 17 = 16$

$33 \rightarrow$ index 16

⑧ **Insert 23:**

$H_1(23) = 23 \bmod 17 = 6 \rightarrow$ already key value

$H_2(23) = 1 + (23 \bmod 13) = 11$

$(6 + 11) = 17$

$17 \bmod 17 = 0$

$H_2(23)$

$0 + 11 = 11$

$H_2(23)$

$11 + 11 = 22 \bmod 17 = 5$

$23 \rightarrow$ index 5

⑨ **Insert 32:**

$H_1(32) = 32 \bmod 17 = 15$

$H_2(32) = 1 + (32 \bmod 13) = 7$

$32 \rightarrow$ index 5

$H_2(32) = 7$

$32 \rightarrow$ insert 12

(10) Insert 22:

$H_1(22) = 22 \bmod 17 = 5$

$H_2(22) = 1 + (22 \bmod 13) = 10$

$H_2(22) = 10$

$22 \rightarrow$ index 8

(11) Insert 3:

$H_1(3) = 3 \bmod 17 = 3$

$3 \rightarrow$ index 3

value (12) Insert 37:

$H_1(37) = 37 \bmod 17 = 3$

$H_2(37) = 1 + (37 \bmod 13) = 12$

$H_2(37) = 12$

$37 \rightarrow$ index 10

Final Hash table:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
23			3	21	32	6		22		37	28	32	13		15	33