

```

/*
* NAME: Megan Chu
* PID: A12814536
* LOGIN: cs12waot
*/

```

1. {4371, 1323, 6273, 4399, 4744, 9879, 1989}

```

h(4371) = 4371 % 10 = 1
h(1323) = 1323 % 10 = 3
h(6273) = 6273 % 10 = 3 COLLISION!!
h(6273, 1) = (3 + 1*(5 - 6273 % 5)) % 10 = 5
h(4399) = 4399 % 10 = 9
h(4744) = 4744 % 10 = 4
h(9879) = 9879 % 10 = 9 COLLISION!!
h(9879, 1) = (9 + 1*(5 - 9879 % 5)) % 10 = 0
h(1989) = 1989 % 10 = 9 COLLISION!!
h(1989, 1) = (9 + 1*(5 - 1989 % 5)) % 10 = 0 COLLISION!!
h(1989, 2) = (9 + 2*(5 - 1989 % 5)) % 10 = 1 COLLISION!!
h(1989, 3) = (9 + 3*(5 - 1989 % 5)) % 10 = 2

```

Index	0	1	2	3	4	5	6	7	8	9
	9879	4371	1989	1323	4744	6273				4399

2. {14, 54, 23, 18, 87, 94, 101, 32, 20, 164, 50}

```

h(14) = (3*14 + 2) % 11 = 0
h(54) = (3*54 + 2) % 11 = 10
h(23) = (3*23 + 2) % 11 = 5
h(18) = (3*18 + 2) % 11 = 1
h(87) = (3*87 + 2) % 11 = 10 → 0 → 1 → 2
h(94) = (3*94 + 2) % 11 = 9
h(101) = (3*101 + 2) % 11 = 8
h(32) = (3*32 + 2) % 11 = 10 → 0 → 1 → 2 → 3
h(20) = (3*20 + 2) % 11 = 7
h(164) = (3*164 + 2) % 11 = 10 → 0 → 1 → 2 → 3 → 4
h(50) = (3*50 + 2) % 11 = 9 → 10 → 0 → 1 → 2 → 3 → 4 → 5 → 6

```

Index	0	1	2	3	4	5	6	7	8	9	10
	14	18	87	32	164	23	50	20	101	94	54

3. {50, 208, 19, 155, 230, 33, 56, 17, 10}

```

h(50) = 50 % 9 = 5
h(208) = 208 % 9 = 1
h(19) = 19 % 9 = 1
h(155) = 155 % 9 = 2
h(230) = 230 % 9 = 5
h(33) = 33 % 9 = 6
h(56) = 56 % 9 = 2
h(17) = 17 % 9 = 8
h(10) = 10 % 9 = 1

```

Index	0	1	2	3	4	5	6	7	8
		208→19→10	155→56			50→230	33		17