Names: _____ Worksheet #5

CS Logins: _____ Sets, Hash Tables and Dictionaries

As always, sit with a partner and work through these together.

The purpose of this activity is to use modular arithmetic to further your understanding of hashing, and the relationship between modulo number and average size per bucket.

Form groups of ~10 with the people around you and pick 1 student representative to raise his/her hand following Seny's prompt at the end of the activity.

Banner ID: _____

Calculate your Banner ID %3, %11, and %19. For all 3 cases, use the following table to keep track of how many IDs in your group fall into each bucket, then calculate the average number of IDs per bin and the maximum number of IDs in any bin. Notice how these values change as the modulo changes.

ID %3 = _____ ID %11 = _____ ID %19= _____

average # per non-empty bin = _____ average # per non-empty bin = _____ average # per non-empty bin = _____

max # in any bin = _____ max # in any bin = _____ max # in any bin = _____

0	**0**	**0**
1	**1**	**1**
2	**2**	**2**
	3	**3**
	4	**4**
	5	**5**
	6	**6**
	7	**7**
	8	**8**
	9	**9**
	10	**10**
		11
		12
		13
		14
		15
		16
		17
		18