

**CS5350 Advanced Algorithms**  
**Assignment 4**

Due: 10/30/2023 - 5:59PM MDT

1. Compile the given code found in archive `assignment4.tgz`, containing the linked list implementations, the hashtables and the dictionary driver code. Run the code on file `sp-en-dictionary.txt`. Observe the number of collisions. Modify the code repeatedly to lower the size of the array used for the hashtable. Run the code each time, observing the number of collisions. Draw a graph giving the number of collisions (as a percentage of the number of entries) in function of the size of the hashtable. Describe the graph and its overall behavior.
2. Compile the given code for a size of an array with 16 entries. Run the code on the mini-dictionary `sp-en-mini.txt`. With the use of `gdb`, draw the graph of pointers of objects created in memory for this dictionary.