Lab 3 Hash Tables

4. What is the advantage and disadvantage of Hash Tables over Array-Based and Linked list data structures?

Hash tables have random access, meaning any element in the data structure can be accessed in constant time. This is advantageous to linked lists, where you would have to iterate through the entire list to find the desired node which is linear time. However, a good hash function is needed for hash table performance. A poor choice of hash function will likely cause collisions, and the more collisions it generates, the more complexity tends toward O(n).