Lab 4 Observations

Implementation:

I began my implementation of the FIFO simulator by implementing a queue with a linked list. After using the **queue\_test.c** file to test my functions. I began designing my FIFO algorithm.

Algorithm Logic:

* While reading each page entry increment the line counter for each line
* Take the line input of each line and search the queue data structure
* If not found
  + Increment the page fault counter
  + If the size of the queue data structure is less than the size of the user input:
    - Add the page number to the data structure
  + Otherwise, if the queue data structure is 100 or larger than the user input:
    - Remove the first node at the head of the data structure
    - Insert the page number at the tail of the data structure

Results:

As seen below with an increase of cache sizes the hit rate also improves.

Observations/Notes:

As seen in the results below, hit rates improves with a larger cache size. I was initially concerned that there was no evidence of Belay’s anomaly. However, it was made clear to me by the TA, Zackery, that not all data sets cause this anomaly.