**Iplc\_sim\_init**

This function takes an index, the block size and the associativity of the cache. Before allocating the cache it will perform checks to make sure the cache meets pre-established specifications like the max cache size. It uses this information to allocate memory and dynamically create the cache with the proper associativity.

**Iplc\_sim\_trap\_address:**

This function deals with checking if a given address is in the cache. It takes into account the given associativity, and looks through the cache data structure. It will update the counter for a hit or a miss. After looking through the appropriate entries for the address it will call the appropriate function to deal with a hit or a miss.