pa4 Cache Simulator by Frederick William Lau

The data structures used in this assignment was simply an array of linked lists.

Each spot in the array corresponded to a SET in the cache. In a fully associative cache each spot in the array corresponded to a LINE in the cache.

The linked list was only used for an n-way associative cache where each node of the linked list corresponded with a BLOCK of memory. Each node contained space for a TAG, INDEX, and VALID field.

Cache A seems to have a better hit ratio because the program is utilizing more of the available cache memory. In Cache B, the indices are being taken from the zero extended most significant bits of the address which often results in a map to the zero location of the array thus the program doesn't utilize all of the available memory in cache B.