

Ch16 Programming assignment

The program uses a lot of methods and for loops but in essence, we first check if the value already exists in the memory cache. Then we check if we have an empty spot. If we do not have an empty slot, we call the replace method which then checks which command in the cache will be called last. It compares this value to the distance of the next call of our current command and then assigns a memory slot to whichever one has the shortest distance to the next call. Everytime we reach one of these scenarios we assign one of our enum values to the next spot in our array of which commands we used.

Screenshot of result

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The array we are printing is:
11, 19, 11, 2, 15, 4, 4, 10, 14, 6, 8, 4, 8, 1, 16, 3, 0, 3, 19, 0, 14, 16, 4, 5, 5, 4, 9, 17, 4, 16, 2, 2, 6, 5, 1, 16, 13, 17, 17, 14, 8, 16, 5, 19, 13, 1, 1, 4, 6, 7,

ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ADDED_NEW, ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ADDED_NEW, ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ALREADY_PRESENT, ADDED_NEW, RE
PLACED, REPLACED, REPLACED, NOT_ADDED, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT, REPLACED, ALREADY_PRESENT, REPLACED, ALREADY_PRESENT, ALREADY_PRESENT, NOT_ADDED, REPLACED
, ALREADY_PRESENT, REPLACED, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT, REPLACED, REPLACED, REPLACED, REPLACED, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT,
NOT_ADDED, NOT_ADDED, ALREADY_PRESENT, NOT_ADDED, REPLACED, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT, NOT_ADDED,
PS C:\Users\adamj\OneDrive\Documents\College\SUU\Winter2024\CS3000\Memory-Caching> c; cd 'c:\Users\adamj\OneDrive\Documents\College\SUU\Winter2024\CS3000\Memory-Caching'; & 'C:\P
rogram Files\Java\jdk-18.0.2.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\adamj\AppData\Roaming\Code\User\workspaceStorage\631251a7182d90cc98d11d5b7bd0
5ce8\redhat.java\jdt_ws\Memory-Caching_cbf2962e\bin' 'Memory_Chaching'
The array we are printing is:
15, 13, 4, 11, 5, 0, 5, 10, 13, 5, 16, 0, 10, 9, 17, 5, 15, 5, 18, 6, 14, 7, 10, 4, 9, 8, 6, 8, 17, 9, 7, 14, 17, 18, 7, 15, 19, 3, 12, 2, 12, 10, 15, 13, 11, 2, 6, 18, 3, 12,

ADDED_NEW, ADDED_NEW, ADDED_NEW, ADDED_NEW, ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ADDED_NEW, ALREADY_PRESENT, ALREADY_PRESENT, ADDED_NEW, ALREADY_PRESENT, ALREADY_PRESENT, ADDED_N
EW, ADDED_NEW, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT, REPLACED, REPLACED, REPLACED, REPLACED, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT, REPLACED, REPLACED, ALR
EADY_PRESENT, REPLACED, NOT_ADDED, REPLACED, NOT_ADDED, NOT_ADDED, REPLACED, NOT_ADDED, ALREADY_PRESENT, NOT_ADDED, REPLACED, REPLACED, REPLACED, ALREADY_PRESENT, ALREADY
_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT, NOT_ADDED, ALREADY_PRESENT, NOT_ADDED, NOT_ADDED, ALREADY_PRESENT,
PS C:\Users\adamj\OneDrive\Documents\College\SUU\Winter2024\CS3000\Memory-Caching> c; cd 'c:\Users\adamj\OneDrive\Documents\College\SUU\Winter2024\CS3000\Memory-Caching'; & 'C:\P
rogram Files\Java\jdk-18.0.2.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\adamj\AppData\Roaming\Code\User\workspaceStorage\631251a7182d90cc98d11d5b7bd0
5ce8\redhat.java\jdt_ws\Memory-Caching_cbf2962e\bin' 'Memory_Chaching'
The array we are printing is:
15, 4, 16, 15, 3, 19, 15, 17, 0, 4, 13, 1, 7, 2, 12, 5, 2, 8, 15, 10, 1, 3, 6, 19, 1, 13, 18, 5, 9, 5, 8, 19, 12, 19, 14, 17, 6, 11, 16, 1, 18, 6, 12, 17, 13, 2, 9, 0, 4, 12,

ADDED_NEW, ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ADDED_NEW, ADDED_NEW, ALREADY_PRESENT, ADDED_NEW, ADDED_NEW, ADDED_NEW, REPLACED, REPLACED,
REPLACED, REPLACED, REPLACED, ALREADY_PRESENT, NOT_ADDED, REPLACED, ALREADY_PRESENT, REPLACED, ALREADY_PRESENT, REPLACED, ALREADY_PRESENT, REPLACED, REPLACED, REPLACED, NOT_ADDED,
NOT_ADDED, ALREADY_PRESENT, REPLACED, ALREADY_PRESENT, NOT_ADDED, ALREADY_PRESENT, REPLACED, NOT_ADDED, ALREADY_PRESENT, NOT_ADDED, NOT_ADDED, ALREADY_PRESENT, REPLACED, ALREADY_P
RESENT, ALREADY_PRESENT, ALREADY_PRESENT, NOT_ADDED, ALREADY_PRESENT, ALREADY_PRESENT, ALREADY_PRESENT,
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