PROJECT 2 – CACHES

Check List

Verify that each item on this check list is correct in your output before submitting. If your output does not conform to every requirement listed below, do not submit your project. Go back and rework your project so that all the listed items are provided correctly.

If you submit without all the information detailed on this check list, there may be an automatic 5-point deduction and the TA will send it back to you to rework.

Please submit your project through Blackboard.

Item 1:

Ensure both the **program code** AND a copy and paste of the **complete output (in a text file)** are included in a .zip (only use .zip extension) container. Upload that to Blackboard.

Item 2:

All addresses and data values must be **displayed in hex**, not decimal.

Item 3:

On a ***Read***, you must show three things: 1) the **address being read**, 2) whether it was a **cache hit or miss**, and 3) the **value you read out of the cache**. Even if it was a miss, you must show the value you read out of the cache **once you handled the miss**.

Item 4:

On a ***Write***, you must show three things: 1) the **address being written to**, 2) whether it was a **cache hit or miss**, and 3) the **value that was written**.

Item 5:

On a ***Display***, you must show the **contents of each slot in the cache**, including columns for the slot, valid bit, and the tag (and ***anything else that's needed***), as well as the data itself.

Item 6:

Page 2 of this document are screen shots of the Cache assignment that show the required output. Model your output on this format. These were taken directly from the assignment as provided in Blackboard.

If you have any questions at all, email the professor (hendrick@bu.edu) *and* the TA (kspalmeer@bu.edu) with CS472 in the subject line. That's what we're here for.

Proper Output Formatting

This is taken directly from the assignment. It is included here only as a "checklist" for the formatting.

For a Read: (example, lines 2 and 4 are typed input by the user)

(R)ead, (W)rite, or (D)isplay Cache?
R
What address would you like read?
7ae
At that byte there is the value ae (Cache Hit)

Other formats are acceptable if you're using an array in your code to input the data, as long as all required elements are shown:

At address 7ae, there is the value ae. (Cache Hit)

For a Write: (example, lines 2, 4, and 6 are typed by the user)

(R)ead, (W)rite, or (D)isplay Cache?
W
What address would you like to write to?
562
What data would you like to write at that address?
2f
Value 2f has been written to address 562. (Cache Hit)

Other formats are acceptable if you're using an array in your code to input the data, as long as all required elements are shown:

The value 2f has been written to address 562. (Cache Hit)

For a Display Cache:
(R)ead, (W)rite, or (D)isplay Cache?
D

Slot	Valid	Tag	Data
0	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2	1	0	20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F
3	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
4	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
5	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
6	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
7	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
8	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
9	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
A	1	7	A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF
B	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
C	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
D	1	3	D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF
E	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F	0	0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

This does not include any information that might be needed to handle writes. If any such information is also needed in the cache, add it and show it when you perform a Display Cache.