

Hw3

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1 Why do we need memory hierarchy?

Ans. good written program tend to visit storage at any given more often, than the storage at next level

Why don't we just construct a large and fast memory and be done with it?

Ans. it is not real, more space means slower speed because there is more room.

2 Why do we need a cache layer in the memory hierarchy?

Ans. Cache memory is crucial it enhances data retrieval performance. It saves program instruction and data

3 Will the result of a program execution be different if executed with cache and with no cache? Explain

Ans. Yes, If program contains a loop that repeatedly references the same data

4. Why do conflict misses occur?

Ans. When many blocks are mapped to the same set misses occur.

5. Why do cold misses occur?

Ans. When the initial access to a block. These misses occur. The block must be placed in the cache.

6. Ans for (l=0; l<20; l++)
print(l)

7. Ans for (l=0; l<20; l++)
print(a[l])