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Microsoft Interview Experience For Data Platform Team (4+ Year Exp.)

- Difficulty Level : [Medium](#)
- Last Updated : 17 Dec, 2019

Round 1:

Question-1 : Reverse Linklist (Using both method recursive as well iterative in $O(n)$ time.)

Question-2 : [Resolve an compile dependency.](#)

Round 2:

Question-1 : Given a list of rectangle coordinates, Find how many rectangles are overlapping.

Question-2 : Given a linklist with different size which represent long integer number. Generate 3rd linklist with the result of sum.

(Conditions/Restriction : Linklist has thousands of node, so recursion will not help here and also using other datastructure to store list won't help)

Round 3:

Question-1 : Explain In-memory file system, Which i had mentioned as a project in my resume.

Question-2 : Rain Trap Water

Question-3 : Wildcard character match. (`?` can be match with 0 or 1 char, `*` can be match with 0 or more char.)

Question-4 : Design a simple cache. Which can store limited number of pages and which support below functionality.

Fun1 : When you update entry in cache at cache miss, Start a timer after time T that entry should be marked as stale entry. For each page you have to maintain timer.

Fun2 : More than one user at a time can use cache.

Fun3 : Query should be in $O(1)$ time.

Round 4:

Question-1 : Given a buffer, Which is treated as single entity. Where multiple users can read and write. Have to implement synchronization method which satisfy below scenarios.

You are given with two function as well `read()`, `write()` inside these functions `main read_buffer()` and `write_buffer()` function are there which does the read and write operation. Now write synchronization method in read and write wrapper.

S1 : Multiple reader can read at a time.

S2 : When reader reads any writer should not write.

S3 : At a time any single writer can write to the buffer. If any one writer is writing no should read and no one else should write to the buffer.

While implementing the logic also consider context-switching in the OS.

Question-2 : [find if given number is Lucky Number or not.](#)

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