

Mihir Sahu:

Q1) OA question (Asked me how I solved it in the OA, I couldn't do it then, so I asked if I could try it in the interview): Given 10 marbles. 9 of which weigh the same. One defective marble differs in weight. Find the minimum number of moves to find the defective marble. (You have a weighing pan, and move = one weighing)

Q2) Check if linked list is a palindrome. (Code, compile and verify)

Q3) How would you find duplicate lines in a very large file. (Check stackoverflow; gave him the top approach (merge sort based), but he was probably not expecting that.)

Khushi Prasad:

- When was the coding round?
- How were the questions? How was your experience?
- What was the first question? Follow Up -> You have used unordered\_map. Do you know its implementation?
- Explain how you solved the second question of the coding round.
- Asked about grades.
- Asked about the project. Follow up -> Did you do all by yourself(along this line)
- Code snippet - Guess the result

```
int main()
{
    int a;
    a = func(10);
    printf("%d, a);
}

int func(int b)
{
    if(b==0)
        return 0;
    else
    {
        printf("%d, b);
        func(b- -);
    }
}
```

- Follow up-> Do you know about the memory structure/memory allocation?
- Check if the linked list is a palindrome. (Code, compile and verify)
- Find min and max elements of an array using the least number of comparisons.
- How would you find duplicate lines in a very large file?  
said Trie, he said you can't store data;

said Hashing, he asked how would you handle collisions? - said Quadratic Probing

Animesh:

- Introduction and brief about OA round
  - (1st - Map, 2nd - Sliding window)
- You have 2 pointers, 1 points to an element of a character array of size 20, another points to a struct(pair of integers) - What would happen if you increment the pointer in each case.
  - Char: moves to the next character, Struct: moves to the next pair of int
- Code snippet, output prediction -

```
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{
    int a;
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    printf("%d, a);

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int func(int b)
{
    if(b==0)
        return 0;
    else
    {
        printf("%d, b);
        func(b- -);
    }
}
```

  - Infinite loop
- 1 Implement a linked list using struct/class (compile in their IDE)  
2 If each node of the linked list stores a character, check if it is a palindrome
- Given a file containing lines of ASCII characters, find duplicate lines.
  - Answered with hashing; linear probing/chaining for handling collisions

Divyanshu Chandra

Round 1:

Q1. Given a C code find errors and tell the output:

```
funcA(int b){  
    if(b==0){  
        return 0;  
    }  
    printf("%d\n",b);  
    funcA(b--);  
}  
int main(){  
    int a = funcA(10);  
    printf("%d",a);  
    return 0;  
}
```

Follow up: Tell what type of error it will give, fix the code.

Q2. Given a Linked List of integers, find if it is a palindrome.

Q3. Tell about the different memory allocations

Stack, Heap, Data, Text

Follow up: Tell what is stored in the heap segment

Q4. Why do you want to join Arista.

Q5. Given a file with lines in it, check if there are duplicate lines.

Approach: Using Unordered map store for each string its frequency

Follow up: 1. Tell about hash collision and ways it is resolved.

2. What if strings are very large.

Round 2:

1. Introduction
2. Which courses have been taught till now
3. What is your favorite data structure and why

Answered: map

4. How is map implemented
5. Give an example of use of map in softwares

6. If the size of map is too large for a single machine how will you store it

7. Why do you want to join Arista

8. What is consistent hashing

9. Was asked if I have studied OS and how multiple processes takes place, I told him we have not been taught about it, still he asked if I have any idea. I told him the general idea of processors, cores, threading

10. Have I ever used multi threading in any of my projects or in coding

11. Project discussion
12. What is space and time trade off
13. Given a Directory find duplicate files in all the folders and sub directories in it  
Answered: I will traverse each file and convert its data into a hash and store its name in an `unordered_map<int, vector<string>>`  
Follow up: Algorithm is correct give some more optimization if possible and compare the approximate time complexities of computation and I/O
14. Names of Hashing algorithm you would use  
Answered: md5 and sha256
15. If you join Arista what field you would like to work in like research, development etc.

Siddhant Gupta

Round 1:

- Given a C code find errors and tell the output:

```
funcA(int b){
    if(b==0){
        return 0;
    }
    printf("%d\n",b);
    funcA(b--);
}
int main(){
    int a = funcA(10);
    printf("%d",a);
    return 0;
}
```

- How is memory allocated. Pass by pointer, reference, value etc;
- Palindromic linked list in O(1) memory.
- Given a file with lines in it, check if there are duplicate lines.
- Approach: Using Unordered map store for each string its frequency

Follow up:

1. Tell about hash collisions and ways it is resolved.- quadratic probing, linear probing, chaining,
2. What if strings are very large.

Round 2:

System design:

- Student Hostel allocation portal.
- Use cases of various data structures like stack, queue, vector etc in a computer.  
Implementation of queue using linked list and arrays

Astha Singhal

Round 1:

-> Questions of coding round

→ how is memory allocated? For the local variable..

-> Palindrome linked list ->O(1) space

I did it by iterative method fast and slow pointer then he asked me to do in recursive way.I couldn't think of recursive approach.

-> Duplicates find in very large file.

Overall discussion

Told him about do it by map...then he said it can be very large string then not space efficient  
them told him about hashmap can shorten the key..

Told him about there will be some collisions..then asked how can you minimise collision then tell him some collision method.

Then he asked me my favourite data structure

Told him arrays..

Then he asked me if I knew the trie data structure...I said yes..

Then asked me what data structure does..its benefit.. -> time and space complexity.

Asked to implement the insertion function in trie..

At last asked about the disadvantages of trie data structure.

Round 2:

-> which of the courses have you taught

> he asked each semester Courses.

-> what project have you done?

-> there is a sensor which detects if the array output is wrong or right..

Basically sensor design.. He was talking about some range..

-> two sorted arrays merge them and make a new sorted array.

-> Do you know Arista?

-> file - write open , read , write , delete function.

