Goldman Sachs interview

2 Question logic + code

1. In a chess board, find the minimum number of steps needed for a bishop to capture a pawn the position of pawn is fixed.

For example, if a pawn is in the same diagonal as of a bishop then return 1.

Pseudo code

Public int minMoves(int x, int y, int a, int b ){

If( (x+y)%2 != (a+b)%2)

return 0;

else if ( Math.abs(a – x) == Math.abs(b-y))

return 1;

else

return 2;

}

1. Given an array of positive integers, find if a pair can add to a specified target number.

Int[] a = {3,4,1,7,5}; tar = 6

In the above case return true as 5+1 = 6.

Implemented it using HashSet.

Solution : <https://leetcode.com/problems/two-sum/>

Questions on Java Programming

3) Questions on static concept

a) Can a static method access instance variable

b) Can a method access static variable. How are static variables stored?

4) What is an immutable object. Examples String, Integer.

5) Question on string pool.

6) How does clone() work

5) string manipulations, bitwise operations and file handling

1. Given an array of integers, place the even numbers on one side and the odd numbers on the other side of the array.

* Seems the interviewer had to probe the candidate at each and every step. Even then the logic was in correct.

1. Question on Static/Non-Static Member variables.

* Accessing Static members from non-static members and the other way around.

1. Create a Singleton

1) Given n no of cards, two person has to pick s no of cards. The card has to be picked up at the edges, either at the alternate edges or at the same edge. Find the cards that are picked inorder to form maximum sum

Eg { 4,3,2,1,6,7,22,21,20,19,3,4,5,2}, s=4

Here the cards picked to form max sum are {4,2,5,4}

2)Egg dropping problem

3)Explain polymorphism. How runtime polymorphism achieves polymorphism. Give realtime examples

4)OOPS concepts with examples

5) Lambda Expression

6)Static and final concepts

7)Diff between Interfaces and abstract classes

8)String concepts

9) Three boxes are present with one containing apples, other with oranges and other with combination of apples and oranges. All three boxes are labelled with the names wrongly.

How may trials are needed to correctly name the boxes.

10) Explain the SDLC technique used in your project

11) You are asked to design a product. Explain the process involved and the factors that you will consider.