Amazon algorithms interview question and answer

1.What does algorithm mean?

An algorithm is a finite sequence of well-defined instructions, typically used to solve a class of specific problems or perform a computation. Algorithms are used as specifications for performing calculations, data processing, automated reasoning, automated decision-making, and other tasks. A heuristic, in contrast, is an approach to problem-solving that may not be fully specified or may not guarantee correct or optimal results, especially in problem domains where there is no well-defined correct or optimal result.

2.Why should we hire you?

As some right out of college, I am on the lookout for opportunities to prove my ability. As a part of this organization, I'll put all my efforts and strengths to make your company reach outstanding achievements, and if you hire me, I will get an opportunity to build my professional experience through your company.

3.What does success mean to you?

In my point of view, I define success as fulfilling my role in my team and the company. I trust that my employer has placed me in a position where I can achieve the goals of the company and my team. So I work toward completing my duties as effectively as possible.

4. How does Prim's algorithm find spanning trees?

The Prim's algorithm considers the nodes to be part of a single tree and adds new nodes to the spanning tree from the given graph.

5. Mention some examples of greedy algorithms?

Examples of greedy algorithms are:

1. Kruskal's Minimal Spanning Tree Algorithm
2. Travelling Salesman Problem
3. Knapsack Problem
4. Prim's Minimal Spanning Tree Algorithm
5. Job Scheduling Problem
6. Dijkstra's Minimal Spanning Tree Algorithm
7. Graph - Map Coloring
8. Graph - Vertex Cover

6.How does Kruskal's algorithm work?

The working of Kruskal's algorithm treats the graph as a forest and every node as an individual tree. A tree that connects to another only if it has the least cost among all available options and does not violate MST properties.