1. What is graph traversal?

In computer science, **graph traversal** (also known as **graph search**) refers to the process of visiting (checking and/or updating) each vertex in a graph. Such traversals are classified by the order in which the vertices are visited.

2.What are graph traversal algorithms?, + compare

1. **DFS (Depth First Search)**

   Depth-First Search or DFS algorithm is a recursive algorithm that uses the backtracking principle. It entails conducting exhaustive searches of all nodes by moving forward if possible and backtracking, if necessary. To visit the next node, pop the top node from the stack and push all of its nearby nodes into a stack. Topological sorting, scheduling problems, graph cycle detection, and solving puzzles with just one solution, such as a maze or a sudoku puzzle, all employ depth-first search algorithms. Other applications include network analysis, such as determining if a graph is bipartite.

2. **BFS (Breadth First Search)**

   Breadth-first search (**BFS**) is an algorithm for searching a tree data structure for a node that satisfies a given property. It starts at the tree rootand explores all nodes at the present depth prior to moving on to the nodes at the next depth level.

3. If a hash function assigns the same location to two elements, what is the solution?

separate chaining collision resolution technique. In this technique, each bucket in the hash table is a linked list. When a collision occurs, the new element is added to the end of the linked list at that bucket. This technique is simple to implement and efficient for small hash tables. However, it can become inefficient for large hash tables, as the linked lists can become long.

4. What is a lambda expression, provide an example?

A lambda expression is a short block of code which takes in parameters and returns a value. Lambda expressions are similar to methods, but they do not need a name and they can be implemented right in the body of a method.

Example:

```
x = lambda a, b, c : a + b + c
print(x(5, 6, 2))
```

5. What is code refactoring?

Refactoring is the process of restructuring code, while not changing its original functionality. The goal of refactoring is to improve internal code by making many small changes without altering the code's external behavior.