PROBLEM SOLVING (CLO-2|)

ALGORITHMS:

QUESTION#01: Finding the shortest path.

Algorithm:

Step 1: Start

Step 2: Input the current location and the final location.

Step 3: Open the map to check the location of the person, locate the person on the map and create the list of locations to keep track of the distance.

Step 4: Now, set the distance of your location as 0 and the other location as infinity.

Step 5: Check and choose the closest distance from your location.

Step 6: Repeat step 5 until you reach your destination.

Step 7: Stop.

QUESTION#02: Sorting the list of numbers.

Step 1: Start.

Step 2: Input the list of numbers using array.

Step 3: Compare the first two numbers. If the first number is larger than the second number swap them otherwise, keep the numbers same.

Step 4: Move to the next numbers and compare. Again check which number is larger and then swap it and move next.

Step 5: Repeat the process until you reached to the last number.

Step 6: The list is now sorted.

Step 7: Stop.

QUESTION#03: Calculating Fibonacci numbers.

Step 1: Start.

Step 2: Enter the nth number you wanted to calculate the Fibonacci number.

Step 3: To find the Fibonacci number start with 0 and end ups with the nth number. The first Fibonacci number is 0 and second is 1.

Step 4: To calculate the Fibonacci number of the number you entered add up the previous two numbers to get the next one.

Step 5: Keep on going until you reached the number you entered.

Step 6: Check the final output.

Step 7: Stop.

QUESTION#04: Inventory management.

Step 1: Start.

Step 2: Create an empty inventory database to store information about the items. Each item should have fields like name, price, quantity, cost and supplier information.

Step 3: Input the items details. Add the items to the inventory database with the provided details.

Step 4: Input the name of the items to be deleted. Search in inventory database for the item using name. If found remove the item from the database if not found, display a message “item does not exit”.

Step 5: Search in the inventory database for the item to update by using name. If found then allow user to update the details (quantity, cost, selling price etc).

Step 6: Provide options for generating different types of reports. Based on the selected report type, query the inventory database for the relevant data. Generate and format the report with the requested information.

Step 7: Print the report of your inventory if required.

Step 8: Stop.

OR

Step 1: Start

Step 2: Define a class named inventory and declare its data members for creating a data base. Data members will include char name ,int item_no , float price and int quantity for creating a inventory management system .

Step 3: We will declare member functions.

1. To add an item: add ()

2. To remove an item from the list remove ()

3. To update an items description update ()

4. To display all the items in inventory report ()

Step 4: Then in main function we will display a message to choose between administration or Quit. If user presses 1 it will go the administration menu otherwise quit.

Step 5: Then in administration menu user has to choose between all of the 4 options.

If he presses 1: add () will be called to add item no and name and other details of new items.

If he presses 2: remove () will be called to delete any item.

If he presses 3: update () will be called to update the details of any item.

If the presses 4: report () will be called to show list and description of items.

Otherwise it will quit.

Step 6: Stop.