1. Design an algorithm for the following to
   1. Accept data from standard user interface or stored data structure
   2. Validate the input and store in a data structure
   3. Sort the data in ascending or descending order using bubble, insertion and selection sort. Provide user selection for type of sort
   4. Display the sorted data
2. Design an algorithm with a user interface to search a pattern in a data collected from the standard user interface.
   1. Collect and intialize the data stream from standard user interface and store in a data structure or from stored data structure
   2. Accept search data pattern from standard user interface.
   3. Search the occurrence of data pattern in the stored data stream.
   4. Output the result – found/not found.
3. Design an algorithm to create a stack with all the typical functions in a stack.
4. Design an algorithm to create, append, delete, update, display a singly linked list containing data.
5. Design an algorithm to implement the following state machine



1. Design an algorithm to find the best route between home and office as per the following data given the following diagram



