Algorithm and Data structures coursework.

Algorithm one – Nearest Neighbour

General formula.

1. Initialize current point as starting point.
2. While points left in list  
   2.1. Add current point to list.  
   2.2. For each point left in list  
    2.2.1 If distance between current point and ‘for point’ < previous distance  
    2.2.2 Closest point is this point.  
    2.2.3 Previous distance is now distance between current point and ‘for point’  
   2.3 end for
3. Remove closest point from list.
4. Current city is now the closest point.
5. End while.

Pros

* Easy to implement.
* Good for small data sizes.
* Next element will be there. (when looking through all elements).

Cons

* Requires large storage of data.
* Large searching problem (Have to iterate over list until list is empty).
* Assumptions made about distance.

Possible improvements

* Use a HashMap instead of an ArrayList. (Each position will be unique and it is faster to search).