**7.2.2 Define problem.**

**-** User request four points, start point, end point, two middle points and their settings includes: walking distance, transfer turn. System get requested points and settings, then search for suitable routes, for user travel from start point to end point though two middle points.

**7.2.3 Attribute Definition.**

* COMBINATION: represent list of element which built from two point adjacent.
* Journey: represent the journey from start point to end point, includes: total distance, time.

**7.*2*.4 Solution**.

* Multi point search route base one “Two points algorithm”.
* To solve problem, we follow these steps:
  + Step 1: We exhaust two points of four points, each point and next point will establish an element. And each established element will be added into list of element we call it is COMBINATION. Suppose four points from user are A, B, C, D, so COMBINATION is AB, BC, and CD.
  + Step 2: We use two points algorithm to solve each element of COMBINATION. Each element is include LIST\_RESULTS – the attribute from algorithm.
  + Step 3: Build list of journey, we call it is LIST\_JOURNEYS. Each journey will be built from COMBINATION and includes:
    - Total time: total of time from each result of LIST\_RESULT of each element in COMBINATION.
    - Total distance: total of distance from each result of LIST\_RESULT each element of COMBINATION.
  + Step 4: Sort LIST\_JOURNEYS follow two priorities:
    - Time is high priority. We sort the list base on increasing time.
    - Distance is low priority. We sort the list base on increasing distance.
  + Step 5: With LIST\_JOURNEYS sorted, we get first six element for show to user.