Task description

Office manager has to sign a document in the business center

The business center has **6 floors**, each of floors is divided into **2 sections**

Each section has an elevator (**Elevator 1** for the **Section 1**, and **Elevator 2** for the **Section 2**)

Each floor also has access to the **Stairs**

The building can be visualized like shown below

Floors	*Elevator1*	*Section1*	*Section2*	*Elevator2*
5	X			
4				X
3	X			
2				X
1	X			
0				

The manager has an ordered plan where she should sign the document

Example

1. 5 floor, 1 section
2. 2 floor, 2 section
3. 4 floor, 2 section

Task

Your mission is to find the most time-optimal route to sign all documents

Function description

The method signature

```
1 usage
public struct SignStep
{
    public int Floor { get; set; }
    public int Section { get; set; }
}

1 usage
public IEnumerable<string> BuildRouteMap(IEnumerable<SignStep> signatureMap)
{
   throw new NotImplementedException();
}
```

You should implement the BuildRouteMap method

The input parameter is an array of SignatureSteps that contains steps with the destination. The Floor and Section

The output parameter should be an array of ordered route steps that you created

Output Example

[E1, E2, S, S]

Where:

E1 – Elevator1

E2 – Elevator2

S – Stairs

Constraints and Time options

- The distance between sections takes 1 minute if you move by the elevator
- The elevator moves at a speed of 1 minute / 1 floor
- The waiting time for elevator 1 minutes
- The movement time on the stairs takes 2 minutes / 1 floor. **Stairs cover both section, so you do not need to move between them, and spent 1 minute**
- The initial position of office manager is 0 floor and 1 section
- If the distance between taking the elevator and taking the stairs is the same, you must choose the route option with **stairs**
- Manager can choose only one option on the one step - elevator or stairs, and cannot combine it
- You can call **Elevator 1** to any floor, but you can only take it to an even number of floor
- You can call **Elevator 2** to any floor, but you can only take it to an odd number of floor

Sample Case1 with explanation

Signature Map:

1. 2 floor, 2 section
2. 4 floor, 1 section
3. 2 floor, 1 section
4. 5 floor, 2 section

Result: ["S", "S", "E1", " E2"]

Explanation:

On the first step, the manager is located on a 0 floor and 1 section.

She needs to reach 2 floors and section 2

- Stairs = 4 min
- Elevator = 4 min

If the time the same, we choose option with stairs. Result S

On the second step, the manager is located on a 2 floor and 2 section.

She need to reach 4 floor and section 1

- Stairs = 4 min
- Elevator = 4 min

If the time the same, we choose option with stairs. Result S

On step three, the manager on the 4 floor and 1 section

She goal floor 2, section 1

- Stairs = 4 min
- Elevator (E1) = 3 min

The E1 is better. Result E1

On the last step, manager on the 2 floor, section 1

Destination is 5 floor, 2 section

- Stairs = 6 min
- Elevator (E2) = 5 min

E2 is the fastest choice. Result E2

Complete result is [S, S, E1, E2]