

Problem: Eko Delivery Service

Eko decide to introduce a new delivery services to the market in order to support growth of E-commerce business in Thailand. Due to innovative nature of the company, the ways to use their service is very innovative one.

To use Eko Delivery Service, their customers have to define the delivery route by themselves. They can construct it by choosing multiple routes between two towns that Eko provided. The delivery cost is equal to the summation of these routes that they choosed.

Each routes in the list is only 'one-way', That is, a route from town A to town B does not imply the existence of a route from town B to town A. Even if both of these routes do exist, they are distinct and are not necessarily have the same cost.

The purpose of this assignments is to help Eko building the system that provide their customers with information about delivery route. you will compute the delivery cost of a certain route, the number of possible delivery route between two towns, and the cost of cheapest delivery route between two towns.

Instruction:

1. Write a program that is able to serve the given cases.
2. Write automated unit tests as you see fit
3. Design and Structure your program as you see fit. It could be in any form - Web App, Console App, Library etc.
4. Write ReadMe file to explain how to use your program

Input: A directed graph where a node represents a town and an edge represents a route between two towns. The weighting of the edge represent the delivery cost between two towns. the towns are named using the first letters of the alphabet. a route between two town A to town B with cost of 1 is represented as AB1

Example::

AB1, AC4, AD10, BE3, CD4, CF2, DE1, EB3, EA2, FD1

Case1: Calculate the delivery cost of the given delivery route. Follow the route as given; do not count any extra stops. In case given route is not exists, output 'No Such Route'

Input	Example Output
the delivery cost for route A-B-E	4
the delivery cost for route A-D	10
the delivery cost for route E-A-C-F	8
the delivery cost for route A-D-F	No Such Route

Case2: Calculate the number of possible delivery route that can be construct by the given conditions. (Do not count the route that has 0 cost)

Input	Output
The number of possible delivery route from E to D with a maximum of 4 stop without using the same route twice in a delivery route	4
The number of possible delivery route from E to E without using the same route twice in a delivery route	5
Bonus: the number of possible delivery route from E to E that delivery cost is less than 20. Given that the same route can be used twice in a delivery route	29

Case3: Calculate the cheapest delivery route between two town.

Example

- the cost of cheapest delivery route between E to D

Input	Output
The cost of cheapest delivery route between E to D	9
The cost of cheapest delivery route between E to E	6

Notes: User must choose at least 1 route to construct delivery route. That's it. No 0 cost delivery route should be included in any cases.