# Algorithms Fundamentals with C#: Exam

Please submit your solutions (source code) to all the below-described problems in [Judge](https://judge.softuni.org/Contests/4005).

## 2. Crypto Exchange

You are running a cryptocurrency exchange that supports trading between different digital assets. You want to find the **minimum number of trades** required to go from one cryptocurrency to another.  
Each digital asset can be exchanged with other assets based on specific trade rules, and these trades can be bidirectional (this means that you can trade BTC to ETH and ETH to BTC). The trades between two assets can be represented as a series of **connected trades**, where each trade can be considered a **step towards reaching the target asset**.  
Given this information, the problem is to find the **minimum number of trades** required to go from **one given cryptocurrency to another**.

### Input

* + The first line will be an integer - **n** - number of pairs supported by the exchange.
  + On the next n lines, you will receive each supported pair in the following format: **"{asset1} - {asset2}"**.
  + On the last line, you will receive a request trade you need to execute in the following format: **"{asset1} -> {asset2}"**.

### Output

* + Print the number of all swaps you need to execute to fulfill the request.
    - Print -1 If the request is impossible to be fulfilled.

### Constraints

* + n will be a positive integer in the range **[1… 20]**.
  + The number of executed swaps will be in the range **[1… 15]**.
  + Trading pairs will always be unique.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 5  BTC - ETH  BTC - LTC  LTC - ETH  LTC - DASH  DASH - ETH  BTC -> ETH | 1 |
| 5  BTC - ETH  BTC - LTC  LTC - ETH  LTC - DASH  DASH - ETH  BTC -> DASH | 2 |
| 4  BTC - BNB  LTC - ETH  LTC - DASH  DASH - ETH  ETH -> BNB | -1 |