

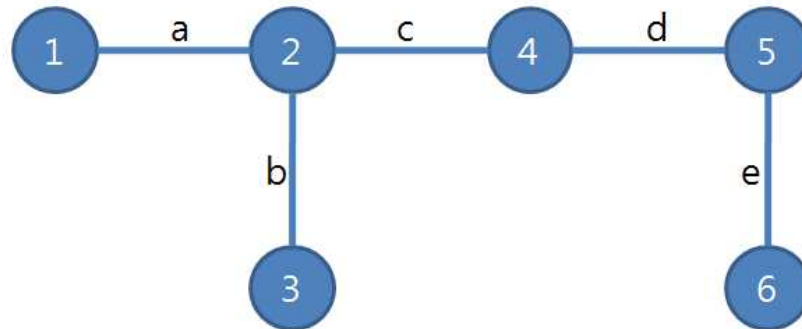
## GEDB029: Basis and Practice in Programming (Spring 2012)

### Homework 2 : Cost Analyzer

**Due-date** : 2012.11.21 11:59 PM

#### Description

Mr. Youn has to trip to another city. There is a simple map below.



Cities are represented as number and roads are labeled by alphabet. Mr. Youn can begin his trip from any city. For example, if he starts from city-1 to city-6, it will be given by a pair of numbers. In this case, he passes through roads in order by 'a'- 'c'- 'd'- 'e'. He arrives at city-6, goes to another city immediately, for example city-4 ('e'- 'd').

You will program a cost analyzer for trip. We give you a set of initial conditions about amount of gas, each road's toll, road's length(km), fuel cost(km/l) and start location. The form of initial conditions is given by (*gas a's\_toll b's\_toll c's\_toll d's\_toll e's\_toll a's\_length b's\_length c's\_length d's\_length e's\_length fuel\_cost start\_city\_num*). Each element of initial conditions is separated by a single space. (\*fuel cost : 연비)

Then, we give you a destination's number. If '0' is given, your program must be terminated. Otherwise, your program prints calculated costs and amount of remaining gas. If gas is empty, prints "gas is empty". Your program must be terminated only when '0' is given or gas is empty.

Remember, DO NOT COPY your friend's code.

**Input** : Initial condition, destination's number

**Output** : Cost of trip, amount of remained gas

#### Example

Input	Output
100 4 5 3 2 4 10 10 10 10 1 1	7 80
4	6 60
6	4 50
5	
0	