# SoftUni Airline

Meri has finally become a junior developer and has received her first task. It’s about managing flights and you need to help her.

Your **income** is calculated based on **how many tickets you sell**. There are two types of tickets. The first is for **adult** and the second is for **youth**. Income is calculated by the formula:

(adult passengers count \* adult ticket price) + (youth passengers count \* youth ticket price)

You also have **expenses**. They are calculated based on the **fuel** **you are burning during a flight**. You will receive the **fuel consumption per hour**, the **fuel price** for 1-hour flight and the **flight duration**. To calculate the expenses, use the following formula:

(flight duration \* (fuel consumption \* fuel price))

For **each flight** you need to **calculate your profit**, **subtracting** the **expense** from the **income**, and you need to print the result. After **all flights**, you need to **calculate** your **overall** and **average** **profit**.

### Input

* On the first line you will receive an integer **N**, the number of flights you need to manage. For **each flight** you will receive **exactly 7 lines** of input:
  + **adult passengers count**
  + **adult ticket price**
  + **youth passengers count**
  + **youth ticket price**
  + **fuel price per hour**
  + **fuel consumption per hour**
  + **flight duration**

### Output

* For **each flight** you need to **calculate the profit** and **print** the result in the following format:
  + If the **income** is **greater** **or equal** than the **expense**:

You are ahead with {profit}$.

* + If the **expenses** are **greater**:

We’ve got to sell more tickets! We’ve lost {profit}$.

* After **all of the flights** you need to **print** the **overall** **profit** in the following format:

Overall profit -> {overallProfit}$.  
Average profit -> {averageProfit}$.

The output **must be rounded** to **three** **decimal** **places** after the decimal point.

### Constraints

* The **adult and youth passengers count** will be integers in range **[0…1,000,000,000]**
* The **adult and youth ticket price** will befloating-point numbers in range **[1…1,000,000,000.00]**
* The **fuel** **price** will be **floating**-**point** number in range [**1…1,000,000.00**]
* The **fuel** **consumption** will be **floating**-**point** number in range [**1…1,000,000.00**]
* The **flight** **duration** will be **integer** in range **[0…72]**

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1  6  20  11  10  15  5  3 | You are ahead with 5.000$.  Overall profit -> 5.000$.  Average profit -> 5.000$. |
| **Input** | **Output** |
| 2  3  50  5  20  5  11  5  5  12  7  8  9  3  2 | We've got to sell more tickets! We've lost -25.000$.  You are ahead with 62.000$.  Overall profit -> 37.000$.  Average profit -> 18.500$. |