

## 20 By car or by plane?

10 points

### Introduction

Easter is near and it's time to plan our vacation.

My friends would like to go to Florence this year and we have not decided yet whether going by car or by plane.

Going by plane costs the ticket price per person, whereas going by car costs the same price (fuel, tolls) for 1 or 5 people.

Also if we go by car we will have to spend a night in a hotel and nor the dinner and the breakfast are included.

The hotel we have found has a fee per room up to 3 people.

It's not clear how many of us will go to Florence and we would like to know what's the cheapest way to go.

Can you help us to decide?

### Input

The input starts with the cost of the plane ticket (per person), the cost for a car for up to 5 people, then the cost of the room (up to 3 people), the cost of the dinner and breakfast (per person), and finally the minimum and maximum number of friends that plan to go.

```
200 400 150 20 2 6
```

### Output

For every possible number of friends, it must show the cost per person going by plane and by car.

The latest line must show the number of friends whose cost per person is the best, along the transportation media and the total cost.

```
2 friends. Cost per person by plane: 200. Cost per person by car: 295
```

```
3 friends. Cost per person by plane: 200. Cost per person by car: 203
```

```
4 friends. Cost per person by plane: 200. Cost per person by car: 195
```

```
5 friends. Cost per person by plane: 200. Cost per person by car: 160
```

```
6 friends. Cost per person by plane: 200. Cost per person by car: 203
```

```
The optimal number of friends are: 5, and the total cost going by car is 800
```

