# 3. Grocery List

*John has to shop for products on a list made by his wife.   
You need to help him by writing a program to make his task easier.*

Write a function called **shop\_from\_grocery\_list** that **receives information** about a budget, a grocery list, products, and their prices, and **returns the result after the shopping**. The function will receive a **different number of arguments**. The arguments will be passed as follows:

* The first argument will be the budget - an **integer** in the **range [0, 200];**
* The second argument will be the grocery list - a **list** with **one**, **many**, or **no** strings representing the products needed to be bought;
* The following arguments will be the **tuples with two elements** - the **first** one is the **product name (string)**, and the **second** one is **its** **price** **(float)**;

After receiving the information and calling the function, the program should **start tracking the shopping process**:

* Take the **product name** from each tuple **successively** and **if you have enough money**, **buy it**, and proceed to the next one.
* If a product has **already been purchased**, **ignore** it, and proceed to the next one.
* If you receive a **product that is not on the grocery list, ignore** it, and proceed to the next one.
* If the **budget you have is less than the price** of the product, **STOP shopping**!

In the end:

* If you manage to **buy all the products from the grocery list**, return the message: **"Shopping is successful. Remaining budget: {budget\_left}."**
  + The remaining **budget** should be formatted to the **second** decimal place.
* **Otherwise**, return the message: **"You did not buy all the products. Missing products: {"product1", "product2", …, "product N"}."**

***Note: Submit only the function in the judge system***

### Input

* There will be **no input from the console**, just parameters passed to your function.

### Output

* Return one of the **strings** **shown above** depending on the result.

### Constraints

* The **first** argument will always be an **integer**.
* The **second** argument will always be a **list**.
* Each **tuple** given will always contain the **product name** with its **price**.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| print(shop\_from\_grocery\_list(  100,  ["tomato", "cola"],  ("cola", 5.8),  ("tomato", 10.0),  ("tomato", 20.45),  )) | Shopping is successful. Remaining budget: 84.20. |
| print(shop\_from\_grocery\_list(  100,  ["tomato", "cola", "chips", "meat"],  ("cola", 5.8),  ("tomato", 10.0),  ("meat", 22),  )) | You did not buy all the products. Missing products: chips. |
| print(shop\_from\_grocery\_list(  100,  ["tomato", "cola", "chips", "meat", "chocolate"],  ("cola", 15.8),  ("chocolate", 30),  ("tomato", 15.85),  ("chips", 50),  ("meat", 22.99),  )) | You did not buy all the products. Missing products: chips, meat. |