## Problem 1 – MMA

*Mixed Martial Arts* is the fastest growing sport nowadays. Weight divisions are as follow:

* **featherweight - 145lbs |lightweight - 155lbs |welterweight - 170lbs**
* **middleweight - 185lbs |light heavyweight - 205lbs |heavyweight - 265lbs**

*Marek Radkov* a.k.a. *"Little evil"* is a very *vicious* and *brutal* fighter and he's training for his *next fight*. However, one of the hardest tests during the preparation is **cutting weight**. *Marek* weights **n** kilos. He trains **t** times per week. During the training he **spends 2500 extra Kcal** than the normal consumption of kilo calories, which is the **weight in kilos \* 35 per day.** Consider **one kilo** as **3500 Kcal**. His calorie intake per day is **k**. The event is going to take place in **p** weeks.

Your task is to write a program that calculates **whether Marek will make weight or not**.

### Input

The input data should be read from the console. It consists of *five input values*, each at *separate line*:

* The *real number* **n** – *Marek*’s **weight in kilos**.
* The *number* **k** – amount of **calories intake per day**.
* The *number* **t** – number of **training days per week**.
* The *number* **p** – number of **weeks before the fight**.
* The **weight class** he’s preparing for.

The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

* The output data must be printed on the console.
* On the only output line you must print **“Yes, {0} lbs less”** if *Marek* is going to be underweight more than **1lb**, or **”No, {0} lbs extra”** if he will not succeed with more than **1lb**.
* Print **“Just did it!”** if *Marek* weights just enough **or ± 1lb**(tolerance).

### Constraints

* The real number **n** is a *double* in range [70.0 ... 250.0], with up to 2 digits after the decimal point. The **"."** will be used as decimal separator.
* The number **k** is an integer in range [1000 ... 4000].
* The number **t** is an integer in range [0…7] and **p** is an integer in range [1…16].
* The **weight class** is one of the values: **“featherweight”,** “**lightweight”**, “**welterweight”**, “**middleweight”**, **“light heavyweight”** and **“heavyweight”**.
* The output number should be **rounded to the higher double** with 2 digits after the decimal point. However, the tolerance of ±1lb must be calculated before the rounding.

***example:*** 153.999lbs – 1.001lbs less – output: “Yes, 1.01 lbs less”;

* Note that **weight** must be **changed every week** and **rounded up** to the second digit after the decimal point (**80.561 = 80.57**).
* **Consumption of Kcal** must be rounded to integer.
* **1 kilo = 2.205libres.**
* Allowed working time for your program: 0.25 seconds.
* Allowed memory: 16 MB.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 80.0  2500  4  2  **welterweight** | Yes, 8.29 lbs less | 2 weeks of weight cutting as follow.   * Week 1 – weight: 80.00 kilos * 4 \* 2500 = 10000 Kcal burned in training * 7days \* 80.0 \* 35 = 19600 Kcal burned naturally * 2500 \* 7 = 17500 Kcal – income of calories * 10000 + 19600 – 17500 = 12100 Kcal = 3.457 kilos burned * Week 2 – new weight: 80.0 – 3.457 = 76.543 – after rounding - 76.55 kilos * 7days \* 76.55 \* 35 = 18754 Kcal burned naturally * 10000 + 18754 – 17500 = 11254 Kcal = 3.215 kilos * Final weight = 76.55 – 3.215 = 73.34 kg   = 161.714 lbs   * Welterweight = 170 – 161.714 = 8.286 less * Output: “Yes, 8.29 lbs less” |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| **84.15**  **2600**  **4**  **2**  **welterweight** | Just did it! | **140**  **3200**  **5**  **4**  **heavyweight** | **Yes, 11.58 lbs less** | **120.15**  **3000**  **6**  **8**  **welterweight** | **No, 2.10 lbs extra** |