# Problem 2

*Two players bare-handedly throw small sharp-pointed missiles known as darts at a round target known as a dartboard. Who is going to win this game?*

You will be given a **matrix with 7 rows and 7 columns** representing the dartboard. For example:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24 | D | D | D | D | D | 8 |
| 23 | D | T | T | T | D | 9 |
| 22 | D | T | B | T | D | 10 |
| 21 | D | T | T | T | D | 11 |
| 20 | D | D | D | D | D | 12 |
| 19 | 18 | 17 | 16 | 15 | 14 | 13 |

Each of the **two players** starts with a **score of 501** and they **take turns** to throw **a dart – one throw for each player**. The score for each turn is **deducted** from the **player’s total** score. The **first** player who reduces their **score to zero or less** **wins** the game.

You are going to receive the information for every throw on a **separate line**. The **coordinate** information of a hit will be in the format: **"({row}, {column})".**

* If a player **hits outside the dartboard**, he does **not** **score** any points.
* If a player **hits a number**, it is **deducted from his total**.
* If a player hits a **"D"** the **sum** of the **4 corresponding** **numbers** per **column** and **row** is **doubled** and **then deducted from his total**.
* If a player hits a **"T"** the **sum** of the **4 corresponding** **numbers** per **column** and **row** is **tripled** and **then deducted from his total**.
* **"B"** is the **bullseye**. If a player hits it, he **wins the game,** and the **program ends**.

For example, if Peter hits position with coordinates (2, 1), he wins (23 + 2 + 9 + 18) \* 2 = 104 points and they are deducted from his total.

Y**our job is to find who won the game and with how many turns.**

### Input

* The **name** of the **first** playerand the **name** of the **second** player,separated by **", "**
* **7 lines** – the dartboard (**separated by single space**)
* On the next **lines** - the **coordinates** in the format: **"({row}, {column})"**

### Output

* You should print only one line containing the winner and his count of throws:

**"{name} won the game with {count\_turns}** **throws!"**

### Constrains

* There will always be **exactly 7 lines**
* There will **always** be a winner
* The points will be in range **[1, 24]**
* The coordinates will be in range **[0, 100]**

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comment** |
| Ivan, Peter  12 21 18 4 20 7 11  9 D D D D D 10  15 D T T T D 3  2 D T B T D 19  17 D T T T D 6  22 D D D D D 14  5 8 23 13 16 1 24  (3, 3) | Ivan won the game with 1 throws! | Ivan hits the Bullseye and wins the game. The program ends. |
| George, Hristo  17 8 21 6 13 3 24  16 D D D D D 14  7 D T T T D 15  23 D T B T D 2  9 D T T T D 22  19 D D D D D 10  12 18 4 20 5 11 1  (1, 0)  (2, 3)  (0, 0)  (4, 2)  (5, 1)  (3, 1)  (0, 0)  (2, 3)  George, Hristo  17 8 21 6 13 3 24  16 D D D D D 14  7 D T T T D 15  23 D T B T D 2  9 D T T T D 22  19 D D D D D 10  12 18 4 20 5 11 1  (1, 0)  (2, 3)  (0, 0)  (4, 2)  (5, 1)  (3, 1)  (3, 3)  (2, 3) | Hristo won the game with 4 throws! | George 1st throw: 501 – 16 = 485  Hristo 1st throw: 501 – 144 = 357  George 2nd throw: 485 – 17 = 468  Hristo 2nd throw: 357 – 168 = 189  George 3rd throw: 468 – 110 = 358  Hristo 3rd throw: 189 – 102 = 87  George 4th throw: 358 – 17 = 341  Hristo 4th throw: 87 – 144 = -57  Hristo wins the game. The program ends. |