## Matrix Modification

Write a program that **reads a matrix** from the console. On the first line, you will get the matrix's **rows**. On next **rows** lines, you will get elements for each **column**, separated with **space**. You will be receiving commands in the following format:

* **Add {row} {col} {value}** – **Increase** the number at the given **coordinates** with the **value.**
* **Subtract {row} {col} {value}** – **Decrease** the number at the given **coordinates** by the **value**.

If **the coordinate is invalid**, you should **print** "**Invalid coordinates**".

When you receive "**END**", you should **print the matrix** and **stop the program**.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 3  1 2 3  4 5 6  7 8 9  Add 0 0 5  Subtract 1 1 2  END | 6 2 3  4 3 6  7 8 9 |
| 4  1 2 3 4  5 6 7 8  8 7 6 5  4 3 2 1  Add 4 4 100  Add 3 3 100  Subtract -1 -1 42  Subtract 0 0 42  END | Invalid coordinates  Invalid coordinates  -41 2 3 4  5 6 7 8  8 7 6 5  4 3 2 101 |