2118. Build the Equation

Description

Table: `Terms`

```
+-------------+------+
| Column Name | Type |
+-------------+------+
| power       | int  |
| factor      | int  |
+-------------+------+
power is the column with unique values for this table.
Each row of this table contains information about one term of the equation.
power is an integer in the range [0, 100].
factor is an integer in the range [-100, 100] and cannot be zero.
```

You have a very powerful program that can solve any equation of one variable in the world. The equation passed to the program must be formatted as follows:

- The left-hand side (LHS) should contain all the terms.
- The right-hand side (RHS) should be zero.
- Each term of the LHS should follow the format `"<sign><fact>X^<pow>"` where:
  - `<sign>` is either `"+"` or `"-"`.
  - `<fact>` is the **absolute value** of the `factor`.
  - `<pow>` is the value of the `power`.
- If the power is `1`, do not add `"^<pow>"`.
  - For example, if `power = 1` and `factor = 3`, the term will be `"+3X"`.
- If the power is `0`, add neither `"X"` nor `"^<pow>"`.
  - For example, if `power = 0` and `factor = -3`, the term will be `"-3"`.
- The powers in the LHS should be sorted in **descending order**.

Write a solution to build the equation.

The result format is in the following example.

Example 1:

```
Input:
Terms table:
+-------+--------+
| power | factor |
+-------+--------+
| 2     | 1      |
| 1     | -4     |
| 0     | 2      |
+-------+--------+
Output:
+--------------+
| equation     |
+--------------+
| +1X^2-4X+2=0 |
+--------------+
```

Example 2:

```
Input:
Terms table:
+-------+--------+
| power | factor |
+-------+--------+
| 4     | -4     |
| 2     | 1      |
| 1     | -1     |
+-------+--------+
Output:
+-----------------+
| equation        |
+-----------------+
| -4X^4+1X^2-1X=0 |
+-----------------+
```

Follow up: What will be changed in your solution if the power is not a primary key but each power should be unique in the answer?