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Functions

Mirko has written the following function:

```
int fun() {
  int ret = 0;
  for (int a = X1; a <= Y1; ++a)
    for (int b = X2; b <= Y2; ++b)
      ...
        for (int <N-th> = XN; <N-th> <= YN; ++<N-th>)
          ret = (ret + 1) % 1000000007;
  return ret;
}
```

```
function fun: longint;
var
  ret: longint;
  a, b, ... , y, z: longint;
begin
  ret := 0;
  for a := X1 to Y1 do
    for b := X2 to Y2 do
      ...
        for <N-th> := XN to YN do
          ret := (ret + 1) mod 1000000007;
  fun := ret;
end;
```

<N-th>denotes the N^{th} lowercase letter of the English alphabet. Each X_i and Y_i denotes either a positive integer less than or equal to 100 000 or a name of a variable that some outer loop iterates over. For example, X3 can be either a, b, or an integer literal. At least one of X_i and Y_i will be an integer literal (i.e. not a variable name) for every i. Compute the return value of the function.

Input

The first line of input contains the positive integer N ($1 \leq N \leq 26$). For the next N lines, the i^{th} line contains X_i and Y_i, separated with a space. If X_i and Y_i are both integer literals, then $X_i \leq Y_i$

Output

The first and only line of output must contain the return value of the function.

Sample input	Sample output
2 1 2 a 3	5
3 2 3 1 2 1 a	10
3 1 2 a 3 1 b	11