Problem 9

Just Picture It

6 Points

Program Name: picture.cpp **Input File: picture.dat**

The Graphics Image Format (GIF) was developed by CompuServe back in the dark ages as a way to compress images for transfer between customers. The compression was achieved by the combination of an 8-bit Color Look Up Table (CLUT) and Run Length Encoding (RLE).

RLE is a relatively simple and loss-less compression scheme, in contrast to JPEG compression which is lossy and much, much more complicated. The most basic form of RLE entails replacing a run of same value pixels with a single (pixel, run length) pair. So, if there were 100 black pixels, instead of encoding 100 individual black pixel values in a row, the compressed version would have a single black pixel value with a run length of 100.

In this problem, you will be presented with an image compressed using this basic form of RLE, and your program will have to output the uncompressed image.

Input Description

Input to this problem will consist of a (non-empty) series of up to 100 data sets. Each data set will be formatted according to the following description, and there will be **no blank lines** separating data sets.

A single data set has 2 components:

Start line - A single line, "START *X Y*", where X ($1 \le X \le 20$) is the number of columns in the uncompressed picture, and Y ($1 \le Y \le 20$) is the number of rows in the uncompressed picture.

Compressed Picture – There will be a series of lines "*V R*", where V ($0 \le V \le 9$) is the next pixel value, and R is the run length for that pixel. There will be precisely enough lines in each *Compressed Picture* to represent $X \times Y$ pixels (the entire picture).

Output Description

For each data set there will be an $X \times Y$ rectangular output showing the uncompressed picture (no spaces). There will be **no blank lines** between output sets.

Sample Input

```
START 6 4
0 5
4 1
0 4
4 1
0 4
4 1
0 4
4 1
0 3
START 8 8
0 8
1 4
2 4
3 4
4 8
5 8
6 4
7 4
8 4
7 4
8 4
7 4
8 4
```

Sample Output

```
000004
000040
000400
004000
00000000
11112222
33334444
44445555
55556666
77778888
77778888
77778888
```