

ASSIGNMENT 1

SWIFT PRACTICING: PUNCHED CARDS¹

A secret team of programmers is plotting to disrupt the programming language landscape and bring punched cards back by introducing a new language called Punched Card Python that lets people code in Python using punched cards! Like good disrupters, they are going to launch a viral campaign to promote their new language before even having the design for a prototype. For the campaign, they want to draw punched cards of different sizes in ASCII art.



The ASCII art of a punched card they want to draw is similar to an $R \times C$ matrix without the top-left cell. That means, it has $(R \cdot C) - 1$ cells in total. Each cell is drawn in ASCII art as a period (.) surrounded by dashes (-) above and below, pipes (|) to the left and right, and plus signs (+) for each corner. Adjacent cells share the common characters in the border. Periods (.) are used to align the cells in the top row.

For example, the following is a punched card with $R=3$ rows and $C=4$ columns:

```
..+-+--+
..|.|.|.
+-+--+--+
|.|.|.|.
+-+--+--+
|.|.|.|.
+-+--+--+
```

There are more examples with other sizes in the samples below. Given the integers R and C describing the size of a punched card, print the ASCII art drawing of it as described above.

¹ This question appeared in the Qualification Round of Google Code Jam 2022

INPUT

The first line of the input gives the number of test cases, **T**. **T** lines follow, each describing a different test case with two integers **R** and **C**: the number of rows and columns of the punched card that must be drawn.

OUTPUT

For each test case, output one line containing `Case #x:`, where *x* is the test case number (starting from 1). Then, output $(2 \cdot \mathbf{R}) + 1$ additional lines with the ASCII art drawing of a punched card with **R** rows and **C** columns.

LIMITS

Time limit: 5 seconds.

Memory limit: 1 GB.

CONSTRAINTS

$1 \leq \mathbf{T} \leq 20$.

$2 \leq \mathbf{R} \leq 10$.

$2 \leq \mathbf{C} \leq 10$.

SAMPLE INPUT

```
3
3 4
2 2
2 3
```

SAMPLE OUTPUT

```
Case #1:
..+-+--+
..|.|.|.
+-+--+
|.|.|.
+-+--+
|.|.|.
+-+--+
Case #2:
..+-+
..|.
+-+
|.|.

```

```
+--+--+  
Case #3:  
..+--+--+  
..|.|.|.|  
+--+--+--+  
|.|.|.|.|  
+--+--+--+
```

DELIVERABLE

Write two pieces of Code.

1. The first code should prepare the sample input file. Here, 20 sets of **R** and **C** pairs should be generated randomly and saved on file.
2. The second code should take the input file and generate the corresponding output sequence (as shown in example output).
3. **Both codes should be done in Swift. Upload the two codes + your output file (3 files needed..... Not 1, not 2, but 3 files).**
4. **Note: Do not copy code. Will use similarity check to deduct marks automatically.**