# 21 Earthcraft prototype
*8 points*

## Introduction

You work in the upcoming amazing sandbox game called Earthcraft. The game will be played from an overhead perspective in a 2D map and will consist on the recollection of materials to build all kind of stuff while you avoid enemies that may attack you.

The head designer has requested to develop a small prototype to show the mechanics of the game to some investors.

In this prototype the objective will be to collect all materials, preventing the player's death.

## Input

The input of your game is:

- The size of the map given as the amount of rows and columns.
- Several positions in the map, each of them with only one of the following elements:
  - Empty: represented as '_', by default all map is empty.
  - Player: represented as 'p'. Only one can exist.
  - Material: represented as 'm'
  - Enemy: represented as 'e'
- A dot that separates map setup from movements.
- A sequence of movements, given as a pair (±1, ±1), indicating the rows and columns to advance each round.
  - The player can only walk one position at a time in any direction.
  - If the player walks into a material position, it will be collected. When all materials are collected, the game ends.
  - If the player walks into an enemy position, they will die and the game ends.

```
3 3          ← this is a 3x3 map
0 1 p        ← row 0 and column 1 is the player position
1 1 e        ← at row 1 and column 1 there is an enemy
1 2 m        ← at row 1 and column 2 there is a material
2 0 e        ← at row 2 and column 0 there is an enemy
.            ← From now on all inputs are movements!
1 1          ← Go down one row and right one column
```

## Output

The output will be a matrix, showing each element and the evolution of the movements.

```
Initial state
_ p _
_ e m
e _ _
Materials collected 0/1

_ _ _
_ e p
e _ _
Materials collected 1/1
You have collected all the materials! Congratulations!
```