The thousand injuries of Fortunato I had borne as I best could; but when he ventured upon insult, I vowed revenge. We continued our route in search of the amontillado. We passed through a range of low arches, descended, passed on, and descending again, arrived at a deep crypt... I forced the last stone into its position; I plastered it up... In pace requiescat!

With the excuse of sampling a cask of amontillado, Montressor has guided poor drunken Fortunato through the catacombs under Montressor's palace. There, in a very remote crypt, Montressor has immured Fortunato inside a hidden niche. Now Montressor wants to return to the chamber where they started their route, but he has forgotten the way to get there. Fortunately, Montressor has a map of the catacombs, which shows all the chambers and their direct connections. (Note that some steps are so difficult that it may be possible to pass from one chamber \( u \) to another \( v \), but not directly back from \( v \) to \( u \).) The map also shows which chambers contain amontillado.

Montressor and Fortunato went from a starting chamber \( x \) to another chamber \( y \) where they are now. Ironically, Montressor knows that there is no path from \( x \) to any chamber with amontillado. Montressor also knows that it is possible to go from \( y \) back to \( x \). However, he cannot identify which is \( x \) nor which is \( y \) in the map. Please help him by computing the number of possible combinations for \( x \) and \( y \) that are consistent with all this information.

**Input**

Input consists of several cases. Each one begins with the number of chambers \( n \), a number \( c \), and \( c \) different chambers that contain amontillado. Follows a number \( m \), and \( m \) different pairs \( u \ v \) (with \( u \neq v \)) denoting that there is a direct connection from \( u \) to \( v \). Assume \( 0 \leq n \leq 10000 \), \( 0 \leq c \leq n \), and \( 0 \leq m \leq 10n \). The chambers are numbered from 0 to \( n - 1 \).

**Output**

For every case, print its number, followed by the number of combinations for \( x \) and \( y \) that are consistent with Montressor's knowledge.

**Sample input**

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

**Sample output**

```
Case #1: 2
Case #2: 6
```