ProblemC
(Programfilename:C.CPPorC.PAS)

Mystery

TheEgyptianarcheologistshavefoundanoldmysteriousdocumentthatshowsthesecretkeythatshouldbeusedto openthemainroomofthelargestpyramid.Whenthelinguiststranslatedtheolddocumen ttheyfoundthattheystill haveaproblemtoopenthedoor,becausethedocumentitselfisapuzzlewhosesolutionwillbethesecretkey.Theold puzzlesaysthatthekeyisconsistedofsomeknownintegersanditshowsthenumberofeachintegerinthe key.Italso mentionsthattheremustbesomepairsoflettersinthekeyandthelexicalorderofthekeymustbeassmallaspossible. Apair *(x,y)* ofintegersisconsideredtobeinakeyifthereisa *y*comingafteran *x*inthekey.Yourtaskistoh elpthe archeologiststofindtheproperkey.

Input **(filename:C.IN)**

Theinputfileconsistsofseveraltestcases.Inthefirstlineofeachtestcasetherearetwointegers *m*<100and *d<=1000*,numberofdifferentintegersinthekeyandnumberofgiven pairs,theninthenextlinethereare *m* integers. The*U+1th* integeristhenumberof *U'*sinthekey.Inthenext *d*lines,ineachlinethereistwointegers *x* and *y* indicatingthatthepair(*x,y*)isinthekey.Thetestcasewith *d=0*indicatestheendo ffile.Ifthereisnosolutionforan inputcaseyoumustreport Impossible̲ astheoutputforthiscase.

Output **(filename:C.OUT)**

Intheoutputfile,foreachtestcaseexcepttheonewith *d=0*writethekeyinaseparateline.Eachtwoconsecutive integersshouldbeseparatedbyexactlyasinglespace.

SampleInput

```
32
102
20
22
00
```

SampleOutput

```
202
```