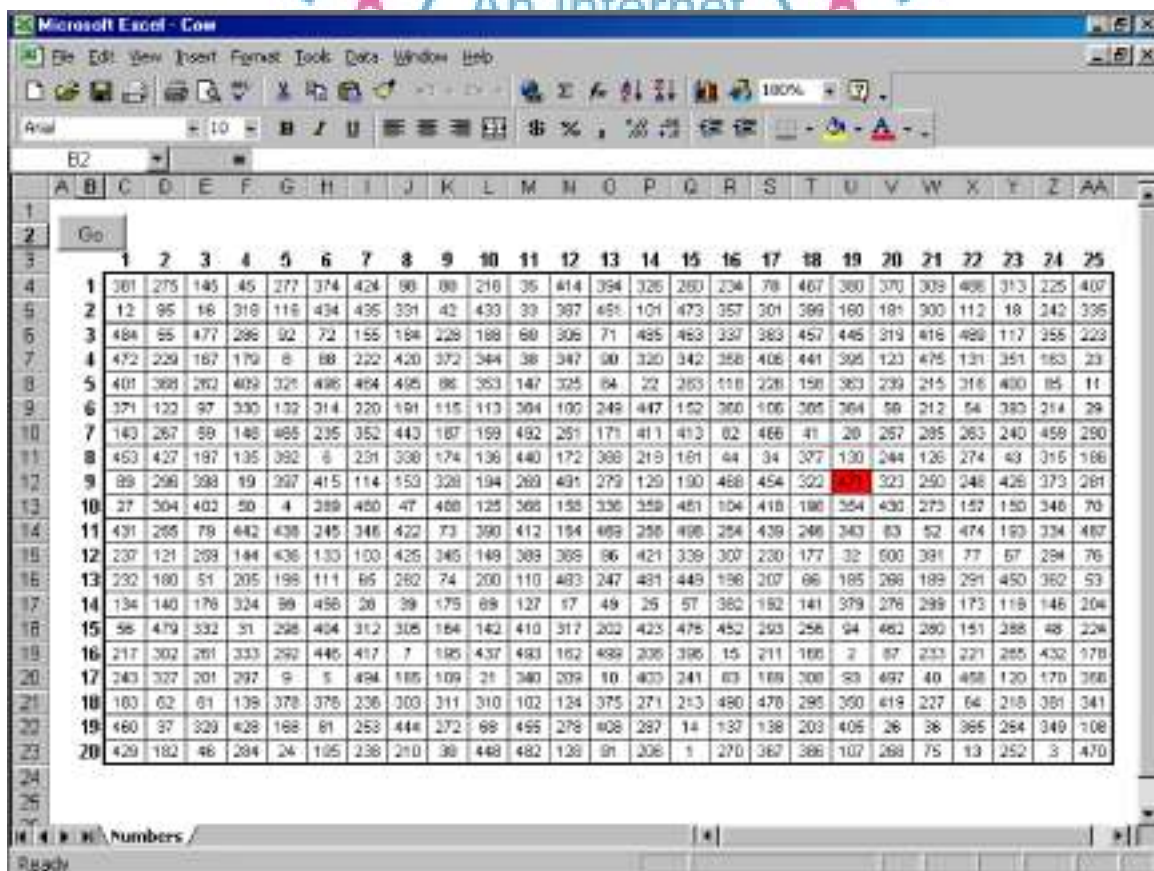


Students in the College of Veterinary Medicine at Virginia Tech periodically hold a fund raiser on the drill field known as Cow Chip Bingo. In this game, the vet students fence off an area of the drill field and divide it up into a series of equally sized squares. (We will assume there are 500 such squares organized into a 20 by 25 matrix.) Each square is randomly assigned a **unique** integer value between 1 and 500 (i.e., each number between 1 and 500 is used *exactly* once). A cow is placed in the fenced area and allowed to graze. Eventually, nature calls and the cow deposits the contents of its intestines on one of the squares. Students are allowed to place bets on which square will be..uh...well.fertilized. Winners receive a prize in keeping with the spirit of the contest.

Depending on the digestive prowess of the participating bovine, the game could be played several times during the day. However, to maintain interest (and betting activity) in the game throughout the day, the vet students have decided to limit each round of the game to 1 hour. If the cow fails to "deliver" during this time, one square will be randomly chosen as the winner and the game will begin anew.

The vet students have asked for your assistance in creating the following Excel spreadsheet to automate the task of assigning random numbers to the squares, and selecting the winning square when the cow fails to deliver. Whenever the user clicks the "Go" button, your VBA program should assign new random numbers to the cells in the worksheet and also randomly select the winning cell and change its background color to red (or some other color). No formulas should be placed in any cells on the worksheet.





**Hints:**

- 1) You may use formulas to create the row and column headings in the table. However, there should not be any other formulas in the worksheet. All the random numbers should be generated in VBA.
- 2) In **VBA**, numbers between 1 and 500 can be randomly generated via:  $1 + \text{Int}(\text{Rnd} * 500)$
- 3) You will need to figure out how to make VBA loop through the 500 cells in the range from C4 to AA23.
- 4) You might want to use a Boolean array with 500 elements to keep track of which of the 500 numbers have been used. None of the numbers can be used twice.

