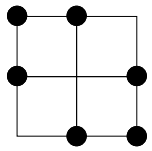
135 No Rectangles

Consider a grid such as the one shown. We wish to mark k intersections in each of n rows and n columns in such a way that no 4 of the selected intersections form a rectangle with sides parallel to the grid. Thus for $k = 2$ and $n = 3$, a possible solution is:



It can easily be shown that for any given value of k, $k^2 - k + 1$ is a lower bound on the value of n, and it can be shown further that n need never be larger than this.

Write a program that will find a solution to this problem for $k = 12$, $n = 133$.

Input and Output

There is no input to this program. Output will consist of n lines of k points indicating the selected points on that line.

Example: if the problem had called for a solution to the problem for $k = 2$, $n = 3$; then the output could look like this:

Sample output

```
1 2
1 3
2 3
```