

In your childhood you most likely had to solve the riddle of the house of Santa Claus. Do you remember that the importance was on drawing the house in a stretch without lifting the pencil and not drawing a line twice? As a reminder it has to look like shown in Figure 1.

Well, a couple of years later, like now, you have to “draw” the house again but on the computer. As one possibility is not enough, we require *all* the possibilities when starting in the lower left corner. Follow the example in Figure 2 while defining your stretch.

All the possibilities have to be listed in the outputfile by increasing order, meaning that 1234... is listed before 1235... .

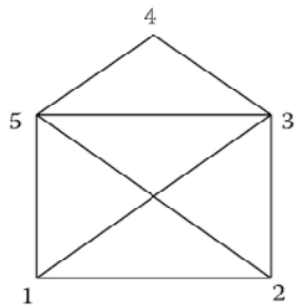


Figure 1: The House of Santa Claus

## Output

So, an outputfile could look like this:

```
12435123
13245123
...
15123421
```

