Description

In **function.h** we define a class called **Block**. If a Block is rotation invariant, it is always displayed in the same form no matter how many times it is rotated. For example,

@OOX
OOXX
XXXX
XXXX

is not rotation invariant, but

@OO@
OOOO
OOOO
@OO@

is rotation invariant.

Your task is to complete the implementation of **clockwise90()**, which rotates the pattern by 90 degrees clockwise, first. Then **invariant()** to check if the input Block is rotation invariant or not.

The following is the format of invariant() and clockwise(), respectively.

friend bool invariant(const Block& a);

void clockwise90();

You need to implement these functions in function.cpp (main.cpp and function.h are provided in10635).

NOTICE: If you get Judge Error, you may change the compile setting to c++11 while submitting your code.

Input

The input will be given in **main.cpp**

Output

The output will be generated by **main.cpp**

Sample Input

```
(Please refer to main.cpp in 10635)
EOF
```

Sample Output

```
INVARIANT
VARIANT

EOF
```