# Assignment: image recognition algorithm

## Introduction

You get a matrix 10×10 size, which contains an image of one of the following symbols: C, O, L, I, T, X. You have to recognize that symbol.

### Symbols definition

I – filled rectangle.

O – filled rectangle with an unfilled area inside. The borders of the unfilled area should not overlap with filled area and/or merge with the outer unfilled area.

C – filled rectangle with an unfilled area inside. The right border of the unfilled area breaks the border of the right border of the filled area.

L – two rectangles lying on top of each other. Their left border is the same. The right edge of the bottom rectangle advances more to the right than the right edge of the top rectangle.

T – two rectangles, one on top of another one. The left border of the rectangle on the top spans more to the left than the left border of the rectangle on the bottom. The right border of the rectangle on the top spans more to the right than the right border of the rectangle on the bottom.

X – any other configuration.

### Input

As an input a program gets 10 sequences of 10 symbols "0" or "1", which represent one symbol starting from the top most line.

### Output

One of the symbols I, O, C, L, T, X.

### Examples

```
        O               L               C               I               T               X
   0000000000      0111000000      0000000000      0000000000      0011111111      000001110
   0111111100      0111000000      0111111100      0000000000      0011111111      000000100
   0111111100      0111000000      0111111100      0111111000      0000001110      000000100
   0111111100      0111000000      0111000000      0111111000      0000001110      000000000
   0110111100      0111000000      0111000000      0111111000      0000001110      000000000
   0111111100      0111000000      0111000000      0000000000      0000001110      001110000
   0111111100      0111000000      0111000000      0000000000      0000001110      001000000
   0111111100      0111000000      0111111100      0000000000      0000000000      001110000
   0111111100      0111000000      0000000000      0000000000      0000000000      000000000
   0111111100      0111111100      0000000000      0000000000      0000000000      000000000
```

## Assessment outputs

1. Source code of Java (or C#) program that demonstrates algorithmical skills and a knowledge of programming language