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## Rectangle Inclusion

**X75652\_en**

Write a function `@inclusion(x1, y1, x2, y2)@` that receives the dimensions of two rectangles  $(x1, y1)$  and  $(x2, y2)$  (all four numbers are strictly positive integers) and checks whether the first fits inside the second, the other way round, or none of both options. The function must return “first inside second”, “second inside first”, or “none” respectively. If two rectangles have the same size, are considered as “first inside second”.

Note that the rectangles may be rotated 90° if that makes the fitting possible

For example, the call `inclusion(6, 3, 4, 2)` corresponds to the rectangles with sizes  $6 \times 3$  and  $4 \times 2$ :

```
+---+  +--+
|   |  +--+
+---+
```

and the expected answer is “second inside first”.

The call `inclusion(3, 6, 4, 2)` corresponds to the rectangles with sizes  $3 \times 6$  and  $4 \times 2$ :

```
+-
| |
| |  +--+
| |  +--+
| |
++
```

and the expected answer is also “second inside first”, since it would fit if we turned 90° any of them.

The call `inclusion(6, 3, 7, 2)` corresponds to the rectangles with sizes  $6 \times 3$  and  $7 \times 2$ :

```
+---+  +-----+
|   |  +-----+
+---+
```

and the expected answer is “none”, since no rectangle fits in the other, with or without 90° turn.

Finally, the call `inclusion(4, 2, 3, 6)` corresponds to the rectangles with sizes  $4 \times 2$  and  $3 \times 6$ :

```
+-
| |
+--+
| |
+--+
| |
++
```

and the expected answer is “first inside second”, since it would fit after a 90° turn.

## Sample session

```
>>> inclusion(6, 3, 4, 2)
second inside first
>>> inclusion(3, 6, 4, 2)
second inside first
>>> inclusion(6, 3, 7, 2)
none
>>> inclusion(4, 2, 3, 6)
first inside second
```

## Problem information

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