



Majid, Milad, fieldwork

- Time limit: 2 seconds
- Memory limit: 256 MB

Milad and Majid are making a long string of 0 and 1.

The string is made in such a way that in the first step 1 writes. After that, each person in his turn considers the string that has been made so far and by converting all 1 to 0 and all 0 to 1 writes the resulting string in the continuation of the previous string and then it is the next person's turn. And they continue this work forever.

For example, the first five turns of the game are as follows:

first birth 1 and the string at the end of this step 1 will be

Then Majid, the current field that 1 takes and completes it and adds it to the end of the string. At the end of this step, the string is 1 0 will be

Then AD 1 0 takes and completes it and adds it to the end of the string and at the end of this stage the string is 1 0 0 1 will be.



▼ Questions

| | |
|-----|--------------------------------|
| 50 | string concatenation |
| 100 | Comparison |
| 100 | Caesar's code |
| 100 | String sorting |
| 100 | Multiplication of matrices |
| 120 | /: ?Kan Chichi Shan |
| 130 | Simple typo checker |
| 150 | Majid, Milad, fieldwork |

All submissions

Final submissions

Scoreboard

Then Majid Nasheh1 0 0 1and by completing it and adding it to the end of the string, the string is in the form1 0 0 1 0 1 1 0will be And in this way, the construction of the string continues forever.

Now we ask you to take it L And R , from the character L M to character R Print the string for us.

Input

in a line respectively L And R It will be given to you.

$$1 \leq L \leq R \leq 1\,000\,000$$

Output

of the character L M to character R Print the string in one line without spaces.

Example

Sample input 1

```
1 2
```

Sample output 1

```
10
```

Sample input 2

7 10

Sample output 2

1001

POST AN ANSWER TO THIS QUESTION

.The training period is over

with Quera

Work with us

contact us

about us

Terms and Conditions

Sponsorship of competitions

events

Kodak

skill up

Trainee exhibition

Tracey

Sources

Quora blog

Programmers' salary calculator

Statistics of the programming world

subscribe to newsletter

Products

Teaching programming

Recruitment ads

Programming questions

Competitions

classes

Employment platform

Quera Jr



