

F006A. Can you add up?

P55982_en

Your task is to write a program that reads pairs of natural numbers and prints their sum.

Warning: the natural numbers that we consider in this problem can be very large (thousands of digits), you must store them in variables of `string` type. The main program is already done; do not modify it:

```
int main() {
    string x, y;
    while (cin >> x >> y) cout << sum(x, y) << endl;
}
```

Implement the function

```
string sum(string x, string y);
```

that, given two strings of characters `x` and `y` that represent two natural numbers, returns a string of characters `z` that represents their sum.

To simplify the problem, suppose that neither `x` nor `y` start with '0'. Besides, suppose that `x` has, at least, the same number of digits than `y`. The number of digits of `z` must be equal to the number of digits of `z` plus one, although it causes that `z` starts with '0'.

Observations

- Remember that a string `s` with `n` characters `c` can be declared like this: `string s(n, c);`
- Remember also that the string operations like `s += '0';`, `s1 += s2;` or `s = s1 + s2;` are not allowed.

Sample input 1

```
2 2
7 8
1234 1
9999 1
10000000000000000000000000000000 10000000000000000000000000000000
99999999999999999999999999999999 99999999999999999999999999999999
10000000000000000000000000000000 1
1870 8428
100000 1010
```

Sample output 1

```
04
15
01235
10000
02000000000000000000000000000000
10999999999999999999999999999999
010000000000000000000000000000001
10298
0101010
```

