Lab work 1

PP1

week 1

1 usefull links for this lab

2 problem set

37267. A+B

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	64 megabytes

You are given two integers a and b. Print $a + b$.

Input

The only line of the input contains integers a and b ($-10000 \le a, b \le 10000$).

Output

Print $a + b$.

Examples

standard input	standard output
1 2	3
15 14	29
894 197	1091
8581 6058	14639
289 21	310

71697. Code

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Almat is the KBTU student. Recently he managed to get to the ACM finals, but in order to be registered at the finals he needs a secret code which consists of only digits. Code is constructed from two numbers n and m. The first number - age of the contestant. The second number - sum of the first and the last digits of the 3-digit random number k given by administration of the finals. Help Almat to construct the code.

Input

The first line contains non-negative number n ($1 \leqslant n \leqslant 1\,000$) - age of the contestant. The second line contains non-negative number k ($100 \leqslant k \leqslant 1\,000$) — random number.

Output

Calculate the sum of the numbers n and m.

Examples

standard input	standard output
18 123	22
17 391	21
0 100	1
505 100	506
1000 999	1018

51447. Bits

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	64 megabytes

You are given integer number N, guaranteed that the number has exactly 4 bits in binary representation. reverse the number in binary representation and print out it.

Input

One integer number N

Output

Reversed number

Examples

standard input	standard output
12	3
11	13
13	11
9	9
10	5

Note

reverse example: 12 in binary representation is 1100, 0011 is reversed number, it means you should output 3.

51191. Root

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	64 megabytes

You are given integer number. Print out its square root value.

Input

One integer number.

Output

One double number.

Examples

standard input	standard output
10	3.1622776602
20	4.4721359550
9	3.0000000000
82499	287.2263915451
9752	98.7522151650
78985	281.0427013818

51445. Value of bit

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	64 megabytes

Input

Given integer number n and i.

Output

Output value of $i - th$ bit of the number n, that is 0 or 1.

Examples

standard input	standard output
179 0	1
4242 13	0
3086 28	0
9226 19	0
8071 2	1
2910 11	1

3 solutions

```cpp
#include <iostream>

using namespace std;

int main(){

 int a, b;

 cin >> a >> b;

 cout << a + b;

 return 0;
}
```

```cpp
#include <iostream>

using namespace std;

int n, k;

int main() {

 cin>>n>>k;

 cout<<n + (k % 10 + k / 100);

 return 0;
}
```

```cpp
#include <iostream>
#include <cmath>

using namespace std;

int main() {
 int n;
 cin >> n;
 int m = 0;
 int k = 1;
 for (int i = 3; i >= 0; i--) {
  if ((n & (1 << i)) > 0) {
   m = m + k;
```

```
    }
    k *= 2;
  }
  cout << m;
  return 0;
}
```

```
#include <iostream>
#include <cmath>

using namespace std;

int main(){

  int x;

  cin >> x;

  cout << sqrt(x);

  return 0;
}
```

```
#include <iostream>

using namespace std;

int main(){

  int n, i;

  cin >> n >> i;

  cout << ( (n >> i) & 1 );

  return 0;
}
```

4 Additional tasks for this lab