ScoreBOREd--[10]

In the game of cricket, the goal of the batting team is to score runs. Two batsmen stand at opposite ends of the pitch (a long, narrow rectangle of ground). A member of the opposing team bowls the ball from one end of the pitch towards the batsman at the other end, who hits it (or tries to). The two batsmen then make zero or more runs before the ball is bowled again (each time this happens is called a ball). The batsmen make a run by each running to the other end of the pitch, thus swapping places. Although both batsmen run, only the one to whom the ball was bowled is credited with the runs. After every six balls, the direction of bowling is swapped around.

Given an integer number containing the number of runs scored from each ball, determine how many runs were scored by each of the batsmen. Return this as an integer number containing exactly two elements. The first element is the number of runs scored by the batsman who faced the first ball, and the second is the number of runs scored by the other batsman.

- If you are familiar with cricket, you may assume that there are no extras or wickets.
- Runs will contain between 1 and 50 elements, inclusive.
- Each element of runs will be between 0 and 6, inclusive.

Examples
1) {1, 4, 1, 2}

Returns: {3, 5}

The first batsman scores 1, so they swap places. The second batsman then scores 4. Since they swap places an even number of times, he also faces the third ball and scores another 1 and they swap back. The first batsman then scores 2, bringing his total to 3.

2) {4, 4, 4, 4, 4, 1, 4, 4, 4, 4, 4, 1, 4, 6, 4, 6}

Returns: {62, 0}

The first batsman scores one at the end of each group of six balls so that he faces every ball.

Forty-Two (101010)--[10]

Who said the Answer to The Ultimate Question Of Life, the Universe and Everything is 42!!! Come on lets prove this wrong...

You are going to stick the number of your room on the door. The shop near your house sells wonderful sets of plastic digits. Each set contains exactly ten digits - one of each digit between 0 and 9, inclusive. Return the number of sets required to write your room number. Note that 6 can be used as 9 and vice versa. room Number will be between 1 and 1,000,000, inclusive.

Examples

1) 9999

Returns: 2

Each set contains one '6' digit and one '9' digit. '6' could be used as '9' and therefore two sets are enough.

2) 888888

Returns: 6

bik-O-mania--[25]

A pursuit race is run on a circular track. The participants each start at the same start line, but each at a different time based upon their performance in earlier races. Whenever a rider is passed by another rider, he is eliminated from the race. If a previous rider circled the track and reached the start line at or before the time when a contestant is scheduled to start, then that contestant is eliminated at the time the rider reached the start line.

The program inputs the total length of the track (between 1000 and 5000), the names of the contestants(2 to 50 names maximum 50 characters each), their starting times(ranging from 0 to 1000, each being mutually exclusive), and their respective constant speeds(between 1 & 50). It returns a String giving the names of the eliminated contestants in the order in which they were eliminated. In case of simultaneous eliminations, list the simultaneously eliminated riders in alphabetical order.

Note: track is in feet, speed is in feet per second, and start is in seconds. Element i of speed, start, and name applies to contestant i. Also, name, start, and speed will all contain the same number of elements.

Examples

1) 4800
   {"A","B","C"}
   {0, 100,180}
   {30, 30, 30}

Returns: {"C"}

Rider A starts at time 0 and goes 3000 feet before B starts at time 100. A passes the start line at time 160, before C can start, thereby eliminating C. But B and A can never catch each other since they are going the same speed so they are never eliminated.

2) 5000
   {"TOM","TOMMY","BILL","SPEEDY","JIMMY"}
   {100,120,110,0,1000}
   {50,50,50,50,50}

Returns: {"BILL", "JIMMY", "TOM", "TOMMY"}

SPEEDY just manages to circle the track before any of the others can start. So the other four are all eliminated at the same time, and are listed in alphabetical order.

Exhaustion Dream--[20]

One day "Sam" entered the famous bakery shop "Red" located at the top of the Byterhill Hill on the planet "NotEarth". Mr Brown was the owner of Red. Sam did not order a brownie; Mr. Brown din't give him a brownie. But then SUDDENLY Sam's phone rang. It was his wife calling from planet "AgainNotEarth". She wanted him to get a brownie for her. So then not like always he went to Mr. Brown and asked him to pack him two brownies. It cost him 5 bEuros (brown euros). He took the food item to "AgainNotEarth" where he, his wife "Cinderella" and his son "SamSon" had it for dinner.

Sam slept that night and woke up to find that it was all a dream, and he did not actually get any Brownie to eat.

So now that Sam is out of his dream, you are also requested to get back to reality and focus on coding the solution to the problem below.

You are to perform a special kind of addition. You will be given two numbers. The numbers might not be more than 16 digits each. Note that the output doesn't necessarily have to be 16 digit long.

Example

1)

```
1018536142180016
                +
1111562341100010
-------------------------
2130098483280026
```

2)

```
1111111111111111
                 +
2222222222222222
-------------------------
3333333333333333
```

Loading... --[30]

We have a pile of crates at our warehouse that we want to load onto trucks. Our plan is to divide the pile in half forming two smaller piles, then continuing dividing each of the small piles in half until we get piles that will fit on a truck. (Of course, when we divide an odd number of crates in "half", one of the resulting piles will have one more crate than the other.) Our problem is to determine how many trucks we will need to ship the crates.

Constraints
- numCrates will be between 2 and 10,000, inclusive.
- loadSize: loadSize will be be between 1 and (numCrates - 1), inclusive.

Examples
1) Input: 14 3
   Returns: 6

After the first division we have two piles each with 7 crates. Each of these piles must be divided giving us 2 piles of 3 and 2 piles of 4. The piles with 4 crates must be further divided giving us 2 piles of 3 and 4 piles of 2. Each of these piles fits into a truck, so we need 6 trucks.

2) Input: 15 1
   Returns: 15

We will eventually end up with 15 piles, each with just 1 crate.

Output Tests

ScoreBOARD
1) {0, 0, 0, 0, 0, 0, 1}
Returns: {0, 1}
The first batsman faces 6 balls without scoring. The bowling direction is swapped, so the second batsman faces the last ball and scores 1 from it.
2) {1, 0, 0, 0, 1, 4, 2, 1, 2}
Returns: {7, 4}
3) {1, 3, 1, 3, 1, 3, 1, 3}
Returns: {6, 10 }

Forty-Two
1) 122
Returns: 2
Two sets are required because each set contains only one '2' digit.

2) 12635
Returns: 1

bik-O-Mania
1) 3000
{"BO","JO", "AL"}
{10, 0, 15}
{12, 2, 10}
Returns: {"JO", "AL"}
JO goes 20 feet (10 seconds at 2 feet/sec) before BO starts at time 10. JO is eliminated at time 12 since both JO and BO have gone 24 feet. AL starts at time 15 but is eventually caught by BO since BO is going at a higher speed.
2) 3000
{"BOBO", "JOHNNY", "ANNA"}
{67,0,15}
{50,45,3}
Returns: {"BOBO", "ANNA"}
3) 3000
{"B","J","A"}
{66,0,15}
{50,45,3}
Returns: {"A", "J"}

Loading...
1) 1024 5
Returns: 256
1024 divides in half very nicely. We eventually end up with 256 piles, each containing 4 crates.