Result & Analysis

Student: AMBER JAIN   Test: 2023_Hour of Code_Day 8   Course: 2023 Batch_Hour of C...
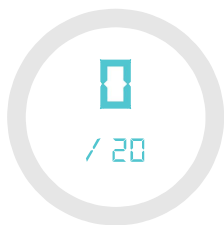
Attempt 1

IP Address: 103.101.103.50   **Tab switches:** 2   **OS used:** Windows   **Browser used:** Chrome

Test Duration: 00:11:16   **Test Start Time:** Apr 27, 2022 | 11:48 AM

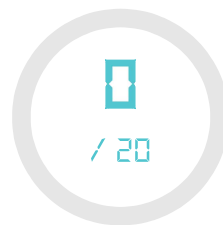**Test Submit Time:** Apr 27, 2022 | 12:00 PM

Overall score

0 / 20	**Rank:** NA **Topper score:** 20.00 / 20 **Average score:** 8.87 / 20 **Least score:** 0.00 / 20

Coding

0 / 20	**Rank:** NA **Topper score:** 20.00 / 20 **Average score:** 12.74 / 20 **Least score:** 0.00 / 20

Overall Question Status
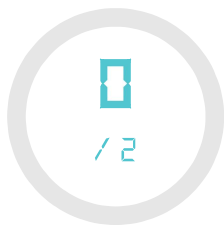
0 / 2	**Total Questions:** 2 **Questions Attempted:** 0 **Questions Correct:** 0 **Question Wrong:** 0 **Partially Correct:** 0 **Question Not Viewed:** 1

Coding - Question Status
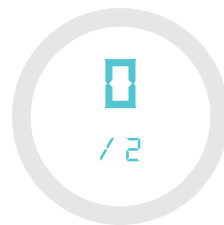
0 / 2	**Total Questions:** 2 **Questions Attempted:** 0 **Questions Correct:** 0 **Question Wrong:** 0 **Partially Correct:** 0 **Question Not Viewed:** 1

Topic wise Analysis   Coding   ▼

Question No: 1   Single File Programming Question   Report Error

Adjacent XOR
Problem statement
You are given an integer input num.
Write a program to perform the following operations
1. Obtain Z by converting num to Binary form.

2. For each bit A in Z, apply bitwise XOR operation with the adjacent bit present on its right, starting from the Most Significant Bit (MSB), store the obtained value back in bit A. Let the new binary number obtained by performing these operations be Y.

3. Obtain X by converting Y to a Decimal form.

Your task is to return the value of x.

[NOTE - Apply bitwise XOR operation of the Least Significant Bit (LSB) with 1 in Z].

Example 1

Input

013

Output

6

Explanation

6 was obtained as the result after applying all the operations on num = 013

Example 2

Input

649

Output

922

Explanation

922 was obtained as the result after applying all the operations on num = 649

Input format

The first line contains an integer, num.

Output format

The output denotes an integer value

Code constraints

$1 <= num <= 10^5$.

Sample testcases

Input 1	Output 1
13	6

Input 2	Output 2
649	922

C++ (17) ⌄

```
1  // You are using GCC
2
```

Status: Not Viewed	Mark obtained: 0/10	Hints used: 0	Times compiled: 0
Times submitted: 0	Level: Hard	Question type: Single File Programming	
Subject: Programming	Subject: C Programming	Subject: Bitwise	

☐ Show testcase scores   ☑ Show solution

Solution 1   C++ (17) ⌄

```cpp
1  #include<iostream>
2  using namespace std;
3
4  int fun(int n)
5  {
6      int arr[32], temp[32];
7      int t = 0, base = 1, index = 0;
8      while(n != 0)
9      {
10         arr[index++] = n % 2;
11         n = n / 2;
12     }
13     temp[0] = arr[0] ^ 1;
14     for(int i = 1; i < index; i++)
15     {
16         temp[i] = arr[i] ^ arr[i-1];
17     }
```

```
18        for(int i = 0; i < index; i++)
19        {
20            t = t + (temp[i] * base);
21            base = base * 2;
22        }
23        return t;
24    }
```

Solution 2

```
7         while(n != 0)
8         {
9             arr[index++] = n % 2;
10            n = n / 2;
11        }
12        temp[0] = arr[0] ^ 1;
13        for(int i = 1; i < index; i++)
14        {
15            temp[i] = arr[i] ^ arr[i-1];
16        }
17        for(int i = 0; i < index; i++)
18        {
19            t = t + (temp[i] * base);
20            base = base * 2;
21        }
22        return t;
23    }
24    int main()
25    {
26        int n;
27        scanf("%d", &n);
28        printf("%d", fun(n));
29        return 0;
30    }
```

Solution 3

```
1     import java.util.*;
2     class Main
3     {
4         static int fun(int n)
5         {
6             int arr[] = new int[32];
7             int temp[] = new int[32];
8             int t = 0, base = 1, index = 0;
9             while(n != 0)
10            {
11                arr[index++] = n % 2;
12                n = n / 2;
13            }
14            temp[0] = arr[0] ^ 1;
15            for(int i = 1; i < index; i++)
```

```
16              {
17                  temp[i] = arr[i] ^ arr[i-1];
18              }
19          for(int i = 0; i < index; i++)
20          {
21              t = t + (temp[i] * base);
22              base = base * 2;
23          }
24          return t;
```

Solution 4   Python (3.8) ▽

```python
1  def fun(n):
2      arr = [0] * n
3      temp = [0] * n
4      t = 0
5      base = 1
6      index = 0
7      while(n != 0):
8          arr[index] = n % 2
9          n = int(n / 2)
10         index = index + 1
11     temp[0] = arr[0] ^ 1
12     for i in range(1, index):
13         temp[i] = arr[i] ^ arr[i-1]
14
15     for i in range(0, index):
16         t = t + (temp[i] * base)
17         base = base * 2
18
19     return t
20
21 n = int(input())
22 print(fun(n))
```

Question No: 2   Single File Programming Question   Report Error

Pre-Sorted integers in an array

Problem statement

You are given an array of integers, arr, of size array_length. Your task is to find the number of elements whose positions will remain unchanged when arr is sorted in ascending order.

For example, let arr = {1, 3, 2, 4, 5}. If arr were to be sorted in ascending order, it would appear as {1, 2, 3, 4, 5}. By inspection, the integers 1, 4 and 5 do not change position before and after sorting. Hence, in this example, there are 3 elements whose position will remain unchanged when arr is sorted in ascending order.

Example 1

Input

1
10

Output

1

Explanation

There is only one element in arr. Hence arr is already sorted, and the position of that one element in arr is in sorted order. Thus, the output is 1.

Example 2

Input

5
5
4
3
2
1

Output

1

Explanation

arr = {5, 4, 3, 2, 1}. When sorted, it becomes {1, 2, 3, 4, 5}. By inspection, the third element in arr, 3, does not change its order, hence the output is 1.

Input format

The first line contains an integer, array_length, denoting the number of elements in arr.
Each line i of the array_length subsequent lines (where 0 <= i < array_length) contains an integer describing arr[i]

Output format

The output prints an integer denoting the number of elements whose positions will remain unchanged when arr is sorted in ascending order as specified in the problem statement.

Code constraints

$1 <= array\_length <= 10^4$
$-10^5 <= arr[i] <= 10^5$

Sample testcases

Input 1	Output 1
1 10	1

Input 2	Output 2
5	1

5

4

3

2

1

C (17) ⌄   ⚙ 🗒

```
1  // You are using GCC
2
```

Status: Skipped   **Mark obtained:** 0/10   **Hints used:** 0   **Times compiled:** 12

Times submitted: 0   **Level:** Easy   **Question type:** Single File Programming

Subject: Programming **Subject:** C Programming **Subject:** Arrays

☐ Show testcase scores   ✔ Show solution

Solution 1   C (17) ⌄

```c
1  #include<stdio.h>
2  int fun(int arr[], int n)
3  {
4      int i, j, count = 0, temp[n];
5      for(i = 0; i < n; i++)
```

```
6            temp[i] = arr[i];
7        for (i = 0; i < n-1; i++)
8        {
9            for (j = 0; j < n-i-1; j++)
10           {
11               if (arr[j] > arr[j+1])
12               {
13                   int t = arr[j];
14                   arr[j] = arr[j+1];
15                   arr[j+1] = t;
16               }
17           }
18       }
19       for(i = 0 ; i < n; i++)
20       {
21           if(arr[i] == temp[i])
22               count++;
23       }
24       return count;
```

Solution 2

C++ (17) ⌄

```
14           {
15               int t = arr[j];
16               arr[j] = arr[j+1];
17               arr[j+1] = t;
18           }
19       }
20       }
21       for(i = 0 ; i < n; i++)
22       {
23           if(arr[i] == temp[i])
24               count++;
25       }
26       return count;
27  }
28  int main()
29  {
30      int n;
31      cin >> n;
32      int arr[n];
33      for(int i = 0; i < n; i++)
34          cin >> arr[i];
35      cout << fun(arr, n);
36      return 0;
37  }
```

Solution 3

Java (11) ⌄

```
13               for (j = 0; j < n-i-1; j++)
14               {
15                   if (arr[i] > arr[j+1])
```

```
16                          {
17                                int t = arr[j];
18                                arr[j] = arr[j+1];
19                                arr[j+1] = t;
20                          }
21                    }
22              }
23              for(i = 0 ; i < n; i++)
24              {
25                    if(arr[i] == temp[i])
26                          count++;
27              }
28              return count;
29        }
30        public static void main(String args[])
31        {
32              Scanner sc = new Scanner(System.in);
33              int n = sc.nextInt();
34              int []arr = new int[n];
35              for(int i = 0; i < n; i++)
36                    arr[i] = sc.nextInt();
```

Solution 4   Python (3.8) ⌄

```python
1   def fun(arr, n):
2       count = 0
3       temp = []
4       for i in range(0, n):
5           temp.append(arr[i])
6       for i in range(0, n-1):
7           for j in range(0, n-i-1):
8               if(arr[j] > arr[j+1]):
9                   t = arr[j]
10                  arr[j] = arr[j+1]
11                  arr[j+1] = t
12      for i in range(0, n):
13          if(arr[i] == temp[i]):
14              count = count + 1
15
16      return count
17
18  n = int(input())
19  arr = []
20  for i in range(0, n):
21      temp = int(input())
22      arr.append(temp);
23  print(fun(arr, n))
```