CS202: IT Workshop 1

Assignment-2

1. Write a java program to eliminate the numbers in a circular array.
   Ekta has created a new game to entertain herself. She keeps **N** numbers {1,2,3,..,N} in a circular array. She takes the first number (1) and eliminates it, then she skips the next number and moves to the third number and eliminates it. She keeps on repeating the process, skipping the next number and eliminating the one after it in a circular fashion, until there is only one number left. Initially it was easy to find the last remaining number but with increasing **N** it's difficult for Ekta to guess the final number that is left. Can you help Ekta ??.
   Input:
   5
   Output:
   2
   Note: Input line 1 contains the N number. Output line 1 indicates the last number remaining.

2. Write a java program to convert the element of an array into the form of palindromic integer.
   You have given an array of **N** integers. Your task is to convert all the non-palindromic integers in the form of palindromic integer (Here palindromic integer means the integer which gives same output when we read it from left to right, and right to left).
   Input:
   5
   2 5 12 100 22
   Output:
   2 5 22 101 22
   Note: Input line 1 contains total number of elements in an array. Input Line 2 contains the elements of array separated by space. Output line 1 contains the elements wise palindrome integer.
   (Hint: Here 12, 100 is not palindromic integer then the next highest number is 22, and 101 which is palindromic integer).

3. Write a java program to implement the Placement scenario.
   The placement session has begun in a college. There are **N** number of students standing outside an interview room in a line. It is given that a person who goes in the first has high chances of getting selected. Each student has a number associated with them known as the problem solving capability (PSC). The higher the capability, the higher the chance of selection. Now, each student wants to know the number of students ahead of him/her who have more PSC than him/her. Find this number for each student.
   Input:
   5
   [3,4,1,5,2]

Output:

[0,0,2,0,3]

Note: Input line1 is an integer N, which denotes the number of students present. Input line2 is an array of size N, denoting the PSC of the student. Output line1 is an array of size N denoting the required answer for each student.