Lift Queries

Rules

1)There are 7 floors in Apartment Building and only 2 lifts.

2)Initially Lift A is at the ground floor and Lift B at the top floor.

3)Whenever someone calls the lift from Nth floor, the lift closest to that floor comes to pick him up.

4)If both the lifts are at equidistant from the Nth floor, then the lift from the lower floor comes up.

Input

First line contains a integer T denoting the number of test cases.

Next T lines contains a single integer N denoting the floor from which lift is called.

Output

Output T lines containing one Character "A" if the first lift goes to N th floor or "B" for the second lift.

Sample Input 1	Sample Output 1
2	
3	A
5	A

Sample Input 2	Sample Output 2
2	
7	B
2	A

Code1:

```
import java.util.Scanner;
class LiftQueriesDemo{
    public static void main(String[] args) {
        int a=1,b=7,n,call;
        Scanner scanner = new Scanner(System.in);
        System.out.println("Enter the number of test case");
         n=scanner.nextInt();
         while(n!=0)
         {
            System.out.println("Enter the test case");
            call=scanner.nextInt();
            if(Math.abs(call-a)<=Math.abs(call-b))
            {
               System.out.println("A");
               a=call;
            }
            else
            {
               System.out.println("B");
               b=call;
            }

            n--;

         }


      }
}
```

Code2:

```
import java.util.Scanner;

public class LiftQueriesDemo {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("Enter the number of test cases:");
        int n = scanner.nextInt();
        lift(n, scanner);

    }

    public static void lift(int n, Scanner scanner) {
        int a = 1, b = 7, call;
        while (n != 0) {
            System.out.println("Enter the test case:");
            call = scanner.nextInt();
            if (Math.abs(call - a) <= Math.abs(call - b)) {
                System.out.println("A");
                a = call;
            } else {
                System.out.println("B");
                b = call;
            }
            n--;
        }
    }
```