```c
// ITMANIA 2023 -- 28th Jan'23
//Q.1 Write a program to find the median of the array obtained after merging the A and B arrays. Suppose that 2 sorted arrays A and B of size n each. Input must be taken from the user.
#include <stdio.h>
int main()
{
    int n;
    printf("-->> Enter the size of arrays A and B: ");
    scanf("%d", &n);

    int A[n], B[n];
    printf("-->> Enter elements of array A in sorted order:\n");
    for (int i = 0; i < n; i++)
    {
        scanf("%d", &A[i]);
    }
    printf("-->> Enter elements of array B in sorted order:\n");
    for (int i = 0; i < n; i++)
    {
        scanf("%d", &B[i]);
    }

    int merged[2 * n];
    int i = 0, j = 0, k = 0;
    while (i < n && j < n)
    {
        if (A[i] <= B[j])
        {
            merged[k++] = A[i++];
        }
        else
        {
            merged[k++] = B[j++];
        }
    }
    while (i < n)
    {
        merged[k++] = A[i++];
    }
    while (j < n)
    {
        merged[k++] = B[j++];
    }

    double median;
    if (2 * n % 2 == 0)
    {
        median = (merged[n - 1] + merged[n]) / 2.0;
    }
    else
    {
        median = merged[n];
    }
    printf("Median of merged array --> %.2f", median);
    return 0;
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}



//Q.2 Write a program to find the number occurring odd number of times from the array. For array values can be taken from the user.
#include <stdio.h>
int main()
{
  int arr[100];
  int n, i, j, count;
  printf("-->> Enter the number of elements in the array: ");
  scanf("%d", &n);
  printf("-->> Enter the elements of the array:\n");
  for(i=0; i<n; i++)
  {
    scanf("%d", &arr[i]);
  }

  for(i=0; i<n; i++)
  {
    count = 0;
    for(j=0; j<n; j++)
    {
      if(arr[j] == arr[i])
      {
        count++;
      }
    }
    if(count % 2 != 0)
    {
      printf("The number occurring odd number of times --> %d\n", arr[i]);
      break;
    }
  }
  return 0;
}



//Q.3 Write a program to find a peak element from an array which is not smaller than its neighbors.
#include<stdio.h>
int main()
{
    int i,a[7];
    for(i=0;i<7;i++)
    {
        printf("-->> Enter the %d element: ",i+1);
        scanf("%d",&a[i]);
    }
    for(i=0;i<5;i++)
    {
        if(a[i] < a[i+1])
        {
            if(a[i+1] > a[i+2])
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        if(a[i+1] > a[i+2])
        {
            printf("%d ",a[i+1]);
        }
    }
  }
  printf("\n");
  return 0;
}



//Q.4 Write a program to find all Armstrong number in the given range of 100 and 999.
#include <stdio.h>
int main()
{
  int num, i, sum, cube, rem;
  for (i = 100; i <= 999; i++)
  {
    num = i;
    sum = 0;
    while (num != 0)
    {
      rem = num % 10;
      cube = rem * rem * rem;
      sum = sum + cube;
      num = num / 10;
    }
    if (sum == i)
    {
      printf("%d ", i);
    }
  }
  return 0;
}
```