```c
/*##########################################################################  */
/*                                                                           */
/* HW05_Sahin_Egilmez_131044059_part2.c                                      */
/*                                                                           */
/* Created on 21/03/2015 by Sahin Egilmez                                    */
/*                                                                           */
/*Description                                                                */
/*                                                                           */
/*C program for  doing some operation in any array                           */
/*Inputs:                                                                    */
/*      - Any array                                                          */
/*Outputs:                                                                   */
/*      - Print to screen max. value,second max. value in array,sum all array */
/*      - Print to screen count and location in array of enter value.        */
/*########################################################################## */
/*-------------------------------------------------------------------------*/
/*                           Includes                                      */
/*-------------------------------------------------------------------------*/
#include<stdio.h>
/*-------------------------------------------------------------------------*/
/*                           Defines                                       */
/*-------------------------------------------------------------------------*/
typedef enum {TRUE= 1,FALSE= 0} BOOL;
/*########################################################################## */
/*                          Function Prototypes                            */
/*########################################################################## */
int find_maximum(int a[], int n);/*find max value in array                  */
int second_max_array(int array[], int n);/*find second max value in array  */
int sum_all_array (int array[], int n);/*find sum of all array              */
int count_array(int array[], int n, int value);/*find count of value in array */
BOOL search_array (int array[], int n, int value);/*find location in array  */

int main()
{
        int sec_max,max,sum;/*defines second max value,second max value, sum. */
        int count,value;/*defines count of values in array and defines value  */
        int i,k,j;/*defines some integers for loops and scanf function*/
        int array[]={6,8,3,3,12,8,3,8,2};/*array what use in this program*/
        int n=9;/*array size*/

        printf("++++++++++++++++++++++++++++++++++++++++\n");
        max=find_maximum(array,n);/*call find maximum function*/
        printf("Maksimum array is %d\n",max);/*print to screen maximum value*/
        printf("++++++++++++++++++++++++++++++++++++++++\n");

        sec_max=second_max_array(array,n);/*call second maximum function*/
        printf("Maksimum second array is %d\n",sec_max);/*print second value*/
        printf("++++++++++++++++++++++++++++++++++++++++\n");

        sum=sum_all_array(array,n);/*call sum of all array function*/
        printf("Sum of all array is %d\n",sum);/*print sum value*/
        printf("++++++++++++++++++++++++++++++++++++++++\n");

        /*this loop for enter value at three times*/
        for(j=0; j<3; j++) {
                printf("Plese enter value for count: ");
                scanf("%d",&value);/*scan the keyboard to value*/

                count=count_array(array,n,value);/*call count array function*/
                printf("Count of value %d is %d\n",value,count);/*print count*/
        }
        printf("++++++++++++++++++++++++++++++++++++++++\n");
        /*this loop for enter valu at three times*/
        for(k=0; k<3; k++) {
        printf("Please enter value for location in array: ");
        scanf("%d",&i);/*scan value for function*/
        search_array(array,n,i);/*call search array*/
        }
        printf("++++++++++++++++++++++++++++++++++++++++\n");

        return 0;
}
```

```c
int find_maximum(int array[], int n)/*find max value in array */
{
        int i,max=0;
        for(i=0; i<n; i++){
                if(array[i] > max){
                max=array[i];
                }
        }
        return max;
}

int second_max_array(int array[], int n)/*find second max value in array */
{
        int i,max,x=0,sec_max=0;
        max=find_maximum(array,n);
        for(i=0; i<n; i++){
                sec_max=x;
                if(array[i] > x){
                x=array[i];
                        if(x==max){
                                x=sec_max;
                        }
                }
        }

        return sec_max;
}

int sum_all_array (int array[], int n)/*find sum of all array */
{
        int i, sum=0;

        for(i=0; i<n; i++){
                sum += array[i];
        }

        return sum;
}

int count_array(int array[], int n, int value)/*find count of value in array */
{
        int i, count = 0;
        for(i=0; i<n; i++){
                if (array[i] == value)
                {
                        count++;
                }
        }
        return count;
}

BOOL search_array(int array[], int n, int value)/*find location in array */
{
        int i;
        for(i=0; i<n; i++){
                if (array[i]==value) {
                printf("%d is at [%d]\n",value,i);
                return TRUE;
                }
        }
        printf("This array haven't this value!\n");
        return FALSE;
}

/*########################################################################## */
/*                    End of  HW05_Sahin_Egilmez_131044059_part2.c           */
/*########################################################################## */
```