```
/*##############################################################################*/
/*HW5_Emre_Bayram_141044019_part2.c                                             */
/*------------------------------                                                */
/*Written by Emre Bayram on march 21, 2015                                      */
/*Description                                                                   */
/*------------------------------                                                */
/*  This program finds maximum value in array, adds all array, counts a value*/
/*in array, finds second maximum value, search a value in array                 */
/*                                                                              */
/*Inputs                                                                        */
/*------------------------------                                                */
/*  -value for searching                                                        */
/*  -value for counting                                                         */
/*                                                                              */
/*Outputs                                                                       */
/*------------------------------                                                */
/*  -prints results                                                             */
/*                                                                              */
/*##############################################################################*/

/*------------------------------------------------------------------------------*/
/*                              Includes                                        */
/*------------------------------------------------------------------------------*/
#include<stdio.h>

/*------------------------------------------------------------------------------*/
/*                              Type Defs                                       */
/*------------------------------------------------------------------------------*/
typedef enum {TRUE=1 , FALSE=0} BOOL;
/*------------------------------------------------------------------------------*/
/*                           Function Protypes                                  */
/*------------------------------------------------------------------------------*/

/*##############################################################################*/
/*int max_array(const int array[], int n)                                       */
/*------------------                                                            */
/*  -array  array                                                               */
/*  -n      size                                                                */
/*                                                                              */
/*Output                                                                        */
/*------------------                                                            */
/*  -max value in array                                                         */
/*                                                                              */
/*Description                                                                   */
/*------------------                                                            */
/*  This function finds max value in array                                      */
/*                                                                              */
/*##############################################################################*/
int max_array(const int array[], int n);

/*##############################################################################*/
/*int sum_all_array(const int array[], int n)                                   */
/*------------------                                                            */
/*  -array  array                                                               */
/*  -n      size                                                                */
/*                                                                              */
/*Output                                                                        */
/*------------------                                                            */
/*  -summuary all value of array                                                */
/*                                                                              */
/*Description                                                                   */
/*------------------                                                            */
/*  returns summuary of array                                                   */
/*##############################################################################*/
int sum_all_array(const int array[], int n);

/*##############################################################################*/
/*int count_array(const int array[], int n, int value)                          */
/*------------------                                                            */
/*  -array  array                                                               */
/*  -n      size                                                                */
/*  -value  counting value                                                      */
```

```
/*                                                                            */
/*Output                                                                      */
/*------------------                                                          */
/*  -count                                                                    */
/*                                                                            */
/*Description                                                                 */
/*------------------                                                          */
/*  counts how much repeated in array of given value                          */
/*                                                                            */
/******************************************************************************/
int count_array(const int array[], int n, int value);

/******************************************************************************/
/*int second_max_array(const int array[], int n)                              */
/*------------------                                                          */
/*  -array  array                                                             */
/*  -n      size                                                              */
/*                                                                            */
/*Output                                                                      */
/*------------------                                                          */
/*  -second max                                                               */
/*                                                                            */
/*Description                                                                 */
/*------------------                                                          */
/*  Returns second max value in array.                                        */
/******************************************************************************/
int second_max_array(const int array[], int n);

/******************************************************************************/
/*BOOL search_array (const int array[], int n, int value)                     */
/*------------------                                                          */
/*  -array  array                                                             */
/*  -n      size                                                              */
/*  -value search value                                                       */
/*                                                                            */
/*Output                                                                      */
/*------------------                                                          */
/*  -TRUE if it finds                                                         */
/*  -FALSE if it doesn't find                                                 */
/*                                                                            */
/*Description                                                                 */
/*------------------                                                          */
/*  Searching given value.                                                    */
/******************************************************************************/
BOOL search_array (const int array[], int n, int value);

/******************************************************************************/
/*void print_array(const int array[],int size)                                */
/*------------------                                                          */
/*  -array  array                                                             */
/*  -n      size                                                              */
/*                                                                            */
/*Output                                                                      */
/*------------------                                                          */
/*  -prints all Array's values                                                */
/*                                                                            */
/*Description                                                                 */
/*------------------                                                          */
/*  This function prints array's values                                       */
/*                                                                            */
/******************************************************************************/
void print_array(const int array[],int size);

int main()
{
    int myarray[9]={6,2,3,15,12,21,3,18,2}; /*array values*/
    int max;                                /*variable for max value*/
    int sum;                                /*variable for summuary value*/
    int value,count,value2;                 /*value for counting           *
                                             *count for result of count func*
                                             *value2 for searching          */
    int second_max;                         /*variable for second max*/
```

```
    int search;                             /*variable for searh func*/

    /*print all array*/
    printf("Here is your array \n");
    print_array(myarray,9);

    /*show max array*/
    max=max_array(myarray,9);
    printf("Maksimum array is %d\n",max);

    /*show second max*/
    second_max=second_max_array(myarray,9);
    printf("Second max array is %d\n",second_max);

    /*show summuary*/
    sum=sum_all_array(myarray,9);
    printf("Sum of all array is %d\n",sum);

    /*show how much counted*/
    printf("What U wanna count>");
    scanf("%d",&value);
    count=count_array(myarray,9,value);
    printf("Count of value %d is %d\n",value,count);

    /*show location of searched value*/
    printf("What U wanna Search>");
    scanf("%d",&value2);
    search=search_array(myarray,9,value2);

    /*if it false that means error and here is error message*/
    if (search==FALSE)
        printf("there is no %d in array.\n",value2);

    return 0;
}

int max_array(const int array[], int n)
{
    int i;
    int m=0;
    for(i=0;i<n;++i){
        if(array[i]>m)
            m=array[i];
    }
    return m;
}

int sum_all_array(const int array[], int n)
{
    int i;
    int sum=0;
    for(i=0;i<n;++i){
        sum+=array[i];
    }
    return sum;
}

int count_array(const int array[], int n, int value)
{
    int i;
    int count=0;

    for(i=0;i<n;++i){
        if(value==array[i])
            ++count;
    }
    return count;
}

int second_max_array(const int array[], int n)
{
    int max;
```

```
    int second_max;
    int i,temp=0;

    max=max_array(array,n);

    for(i=0;i<n;++i){
        second_max=temp;
        if(temp<array[i]){
            temp=array[i];
            if(temp==max)
                temp=second_max ;
        }
    }
    return second_max;
}

BOOL search_array(const int array[], int n, int value)
{
    int i;

    for(i=0;i<n;++i){
        if(value==array[i]){
            printf("%d is at [%d]",value,i+1);
            return TRUE;
        }
    }
    return FALSE;
}

void print_array(const int array[],int size)
{
    int i;
    for(i=0;i<size;++i)
        printf("%d ",array[i]);
    printf("\n");
}
```