Lab Report 2

Question 01: Write a C program to read and print elements of array. – using recursion..

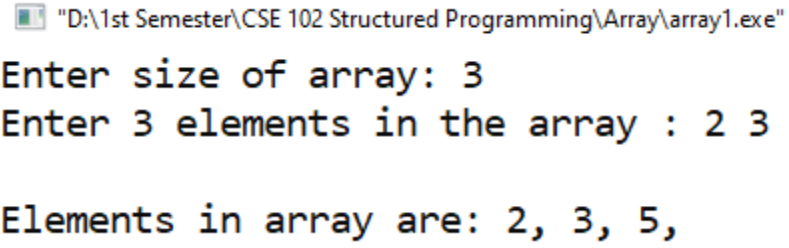
Source Code :

```c
#include <stdio.h>
int main()
{
    int i, N;

    printf("Enter size of array: ");
    scanf("%d", &N);
    int arr[N];

    printf("Enter %d elements in the array : ", N);
    for(i=0; i<N; i++)
    {
        scanf("%d", &arr[i]);
    }
    printf("\nElements in array are: ");
    for(i=0; i<N; i++)
    {
        printf("%d, ", arr[i]);
    }
    getch();
    return 0;
}
```

Output :



Question 02: Write a C program to print all negative elements in an array.

Source Code :

```c
#include <stdio.h>
int main()
{
    int i, N;
    printf("Enter size of the array : ");
    scanf("%d", &N);
    int arr[N];

    printf("Enter elements in array : ");
    for(i=0; i<N; i++)
    {
        scanf("%d", &arr[i]);
    }

    printf("\nAll negative elements in array are : ");
    for(i=0; i<N; i++)
    {
        if(arr[i] < 0)
        {
            printf("%d ", arr[i]);
        }
    }
    getch();
    return 0;
}
```

Output :

```
"D:\1st Semester\CSE 102 Structured Programming\Array\array02.exe"
Enter size of the array : 5
Enter elements in array : 1 2 -8 -3 -1

All negative elements in array are : -8 -3 -1
```

Question 03 : Write a C program to find sum of all array elements. – using recursion.

Source Code :

```c
#include <stdio.h>
int main()
{
    int i, n, sum=0;
    printf("Enter size of the array: ");
    scanf("%d", &n);
    int arr[n];

    printf("Enter %d elements in the array: ", n);
    for(i=0; i<n; i++)
    {
        scanf("%d", &arr[i]);
    }
    for(i=0; i<n; i++)
    {
        sum = sum + arr[i];
    }
    printf("Sum of all elements of array = %d", sum);
    getch();
    return 0;
}
```

Output :

```
"D:\1st Semester\CSE 102 Structured Programming\Array\array03.exe"
Enter size of the array: 5
Enter 5 elements in the array: 3 5 7 9 11
Sum of all elements of array = 35
```

Question 04 : Write a C program to find maximum and minimum element in an array. – using recursion.

Source Code :

```
int main()
{
    int arr[MAX_SIZE];
    int i, max, min, size;

    printf("Enter size of the array: ");
    scanf("%d", &size);

    printf("Enter elements in the array: ");
    for(i=0; i<size; i++)
    {
        scanf("%d", &arr[i]);
    }
    max = arr[0];
    min = arr[0];

    for(i=1; i<size; i++)
    {
        if(arr[i] > max)
        {
            max = arr[i];
        }
        if(arr[i] < min)
        {
            min = arr[i];
        }
    }

    printf("Maximum element = %d\n", max);
    printf("Minimum element = %d", min);
    getch();
    return 0;
}
```

Output :

```
"D:\1st Semester\CSE 102 Structured Programming\Array\array04.exe"
Enter size of the array: 5
Enter elements in the array: 0 7 5 1 9
Maximum element = 9
Minimum element = 0
```

Question 05 : Write C program to search element in an array.

Source Code :

```c
#include<stdio.h>
int main()
{
    int i,n,value,pos=-1;
    printf("Enter Size of Array : ");
    scanf("%d",&n);
    int arr[n];
    for(i=0;i<n;i++)
    {
       scanf("%d",&arr[i]);
    }
    printf("Enter number you want to search :\n");
    scanf("%d",&value);

    for(i=0; i<n; i++)
    {
        if(value==arr[i])
        {   pos=i+1;
            break;
        }
    }
      if(pos==-1)
    {    printf("item is not found");  }
      else
    {  printf("The value is found at %d",pos);  }
    return 0;}
```

Output :

```
"D:\1st Semester\CSE 102 Structured Programming\Array\linearSerach.exe"
Enter Size of Array : 10
1 2 3 4 5 6 7 8 9 10
Enter number you want to search :
7
The value is found at 7
Process returned 0 (0x0)   execution time : 14.401 s
Press any key to continue.
```