Assignment no : 02
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Subject : Structured Programming Language(SPL)
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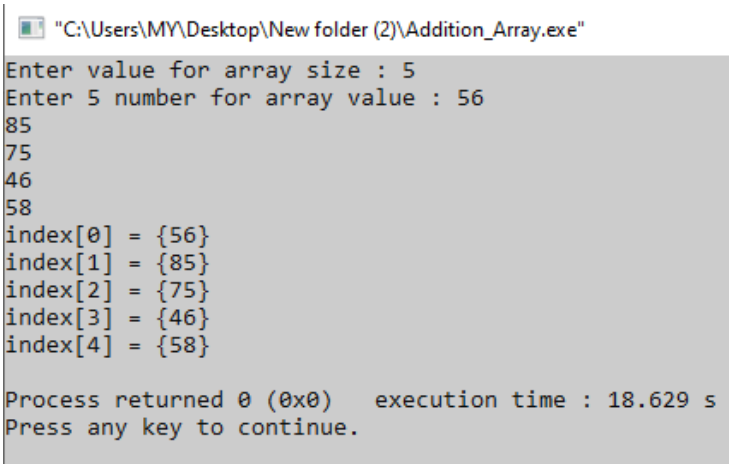
1. Write a C program to read and print elements of array.

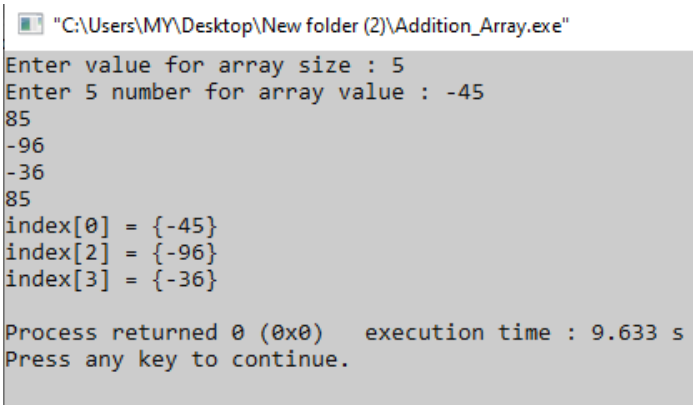
```
#include<stdio.h>
int main()
{
   int n;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n];
   printf("Enter %d number for array value : ",n);
   for(int i=0;i<n;i++)
   {
      scanf("%d",&num[i]);
   }
   for(int i=0;i<n;i++)
   {
      printf("index[%d] = {%d}\n",i,num[i]);
   }
   return 0;
}
```



2.Write a C program to print all negative elements in an array.

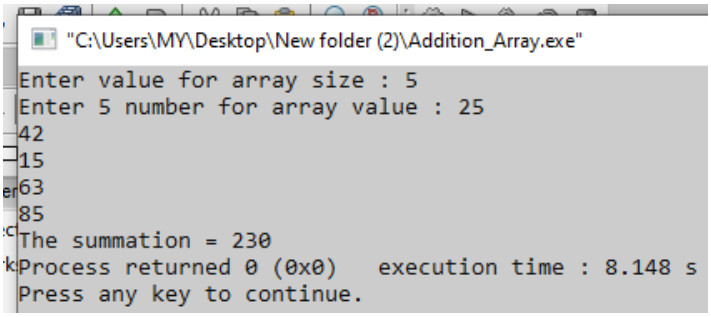
```
#include<stdio.h>
int main()
{
   int n;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n];
   printf("Enter %d number for array value : ",n);
   for(int i=0;i<n;i++)
   {
```

```
    scanf("%d",&num[i]);
  }
  for(int i=0;i<n;i++)
  {
    if(num[i]<0)
    {
      printf("index[%d] = {%d}\n",i,num[i]);
    }
  }
  return 0;
}
```



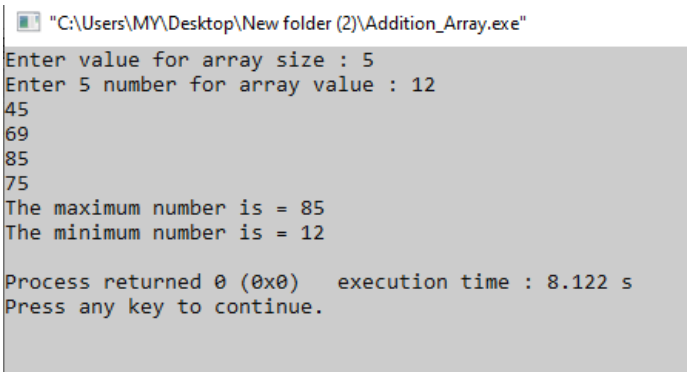
3.Write a C program to find sum of all array elements.

```
#include<stdio.h>
int main()
{
  int n,sum=0;
  printf("Enter value for array size : ");
  scanf("%d",&n);
  int num[n];
  printf("Enter %d number for array value : ",n);
  for(int i=0;i<n;i++)
  {
    scanf("%d",&num[i]);
  }
  for(int i=0;i<n;i++)
  {
    sum+=num[i];
  }
  printf("The summation = %d",sum);
  return 0;
}
```



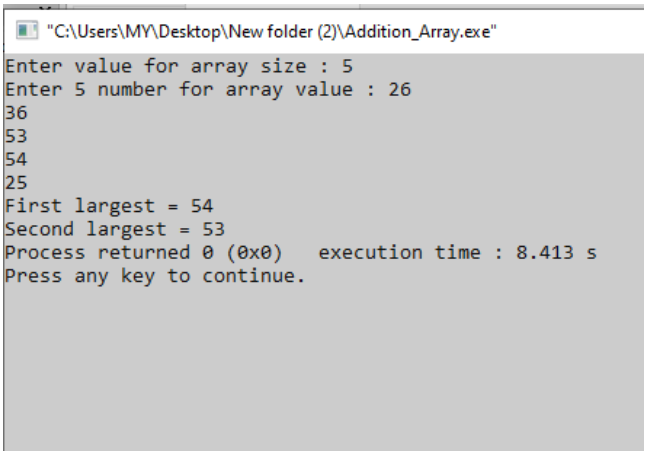
4.Write a C program to find maximum and minimum element in an array.

```
#include<stdio.h>
int main()
{
   int n,max,mini;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n];
   printf("Enter %d number for array value : ",n);
   for(int i=0;i<n;i++)
   {
      scanf("%d",&num[i]);
   }
   max=num[0];
   for(int i=1;i<n;i++)
   {
      if(max<num[i])
         max=num[i];
   }
   printf("The maximum number is = %d\n",max);
   mini=num[0];
   for(int i=1;i<n;i++)
   {
      if(mini>num[i])
         mini=num[i];
   }
   printf("The minimum number is = %d\n",mini);
   return 0;
}
```



5.Write a C program to find second largest element in an array.

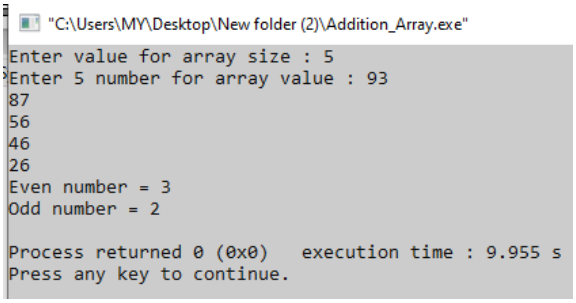
```
#include<stdio.h>
int main()
{
   int n,max1,max2,mini;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n];
   printf("Enter %d number for array value : ",n);
   for(int i=0;i<n;i++)
   {
      scanf("%d",&num[i]);
   }
   max1=max2=num[0];
   for(int i=1;i<n;i++)
   {
      if(max1<num[i])
      {
         max2 = max1;
         max1 = num[i];
      }
   }
   printf("First largest = %d\n", max1);
   printf("Second largest = %d", max2);
   return 0;
}
```



6.Write a C program to count total number of even and odd elements in an array.

```
#include<stdio.h>
int main()
{
   int n,count1=0,count2=0;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n];
   printf("Enter %d number for array value : ",n);
```

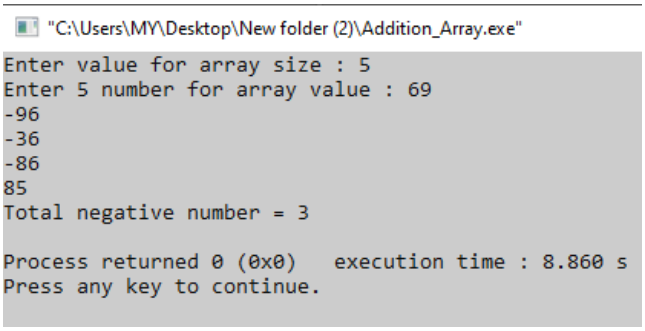
```
   for(int i=0;i<n;i++)
   {
      scanf("%d",&num[i]);
   }

   for(int i=0;i<n;i++)
   {
      if(num[i]%2==0)
         count1++;
      else
         count2++;
   }
   printf("Even number = %d\n",count1);
   printf("Odd number = %d\n",count2);


 return 0;
}
```



7.Write a C program to count total number of negative elements in an array.

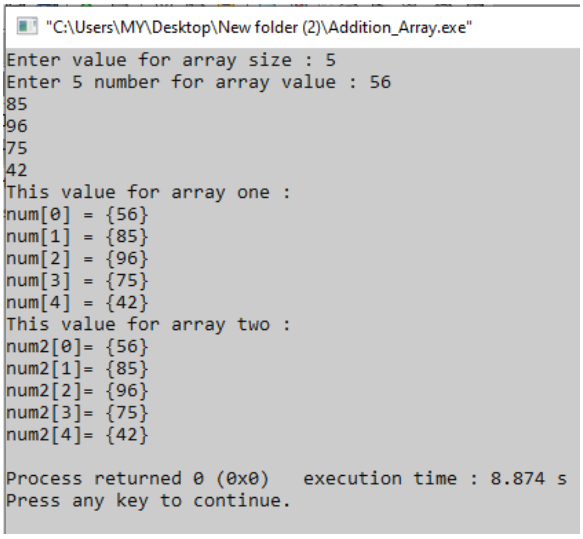
```
#include<stdio.h>
int main()
{
   int n,count=0;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n];
   printf("Enter %d number for array value : ",n);
   for(int i=0;i<n;i++)
   {
      scanf("%d",&num[i]);
   }

   for(int i=0;i<n;i++)
   {
      if(num[i]<0)
         count++;
   }
   printf("Total negative number = %d\n",count);
```

```
 return 0;
}
```



8.Write a C program to copy all elements from an array to another array.

```
#include<stdio.h>
int main()
{
   int n,count=0;
   printf("Enter value for array size : ");
   scanf("%d",&n);
   int num[n],num2[n];
   printf("Enter %d number for array value : ",n);
   for(int i=0;i<n;i++)
   {
      scanf("%d",&num[i]);
   }
   printf("This value for array one : \n");
   for(int i=0;i<n;i++)
   {
      printf("num[%d] = {%d}\n",i,num[i]);
   }
   printf("This value for array two : \n");
   for(int i=0;i<n;i++)
   {
      num2[i]=num[i];
      printf("num2[%d]= {%d}\n",i,num2[i]);
   }

 return 0;
}
```



9.Write a C program to insert an element in an array.

```
#include <stdio.h>
#define MAX_SIZE 100
int main()
{
   int arr[MAX_SIZE];
   int i, size, num, pos;

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

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

   printf("Enter element to insert : ");
   scanf("%d", &num);
   printf("Enter the element position : ");
   scanf("%d", &pos);

   if(pos > size+1 || pos <= 0)
   {
      printf("Invalid position! Please enter position between 1 to %d", size);
   }
   else
   {
      for(i=size; i>=pos; i--)
      {
         arr[i] = arr[i-1];
      }
```

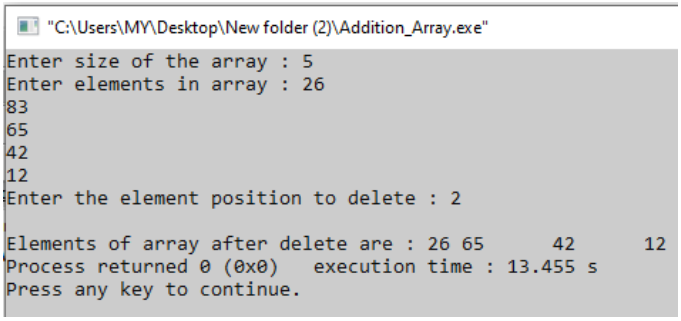
```
        arr[pos-1] = num;
        size++;
        printf("Array elements after insertion : ");
        for(i=0; i<size; i++)
        {
            printf("%d\t", arr[i]);
        }
    }
    return 0;
}
```

```
"C:\Users\MY\Desktop\New folder (2)\Addition_Array.exe"
Enter size of the array : 5
Enter elements in array : 56
26
39
96
63
Enter element to insert : 56
Enter the element position : 3
Array elements after insertion : 56     26      56      39      96      63
Process returned 0 (0x0)   execution time : 15.174 s
Press any key to continue.
```

10.Write a C program to delete an element from an array at specified position.

```
#include <stdio.h>
#define MAX_SIZE 100

int main()
{
    int arr[MAX_SIZE];
    int i, size, pos;

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

    printf("Enter the element position to delete : ");
    scanf("%d", &pos);


    if(pos < 0 || pos > size)
    {
        printf("Invalid position! Please enter position between 1 to %d", size);
    }
    else
    {
        for(i=pos-1; i<size-1; i++)
        {
```

```
            arr[i] = arr[i + 1];
        }

        size--;

        printf("\nElements of array after delete are : ");
        for(i=0; i<size; i++)
        {
            printf("%d\t", arr[i]);
        }
    }

    return 0;
}
```



11.Write a C program to addition between to array.

```
#include<stdio.h>
int main()
{
    int n;
    printf("Enter Array size : ");
    scanf("%d",&n);
    int number1[n],number2[n],value1,value2;
    printf("Enter value for first array : ");
    scanf("%d",&value1);
    for(int i=0;i<value1;i++)
    {
        printf("index[%d] = ",i);
        scanf("%d",&number1[i]);
    }
    for(int i=0;i<value1;i++)
    {
        printf("%d\n",number1[i]);
    }
    printf("Enter value for second array : ");
    scanf("%d",&value2);
    for(int i=0;i<value2;i++)
    {
        printf("index[%d] = ",i);
        scanf("%d",&number2[i]);
```

```
    }
    for(int i=0;i<value2;i++)
    {
        printf("%d\n",number2[i]);
    }
    printf("\nResult = \n");

    for(int i=0;i<value2;i++)
    {
        printf("%d\n",number1[i]+number2[i]);
    }

}
```

"C:\Users\MY\Desktop\New folder (2)\Addition_Array.exe"

```
index[2] = 78
index[3] = 95
index[4] = 63
23
46
78
95
63
Enter value for second array : 5
index[0] = 12
index[1] = 26
index[2] = 78
index[3] = 56
index[4] = 96
12
26
78
56
96

Result =
35
72
156
151
159

Process returned 0 (0x0)   execution time : 18.053 s
Press any key to continue.
```
