

Problem no 01:

Problem name: Addition of two matrices.

Code:

```
#include<stdio.h>

int main(){

    int r,c,row,coloum;

    int a[10][10],b[10][10],x[10][10];

    printf("enter the numbers of row and coloum=");

    scanf("%d %d",&row,&coloum);

    printf("for mattrix A\n");

    for(r=0;r<row;r++)

    {

        for(c=0;c<coloum;c++)

        {

            printf("a[%d][%d]=",r,c);

            scanf("%d",&a[r][c]);

        }

        printf("\n");

    }

    printf("A= ");

    for(r=0;r<row;r++)

    {

        for(c=0;c<coloum;c++)

        {
```

```
printf("\t%d",a[r][c]);
}
printf("\n");
}

printf("enter the number of row and coloum=");
scanf("%d %d",&row,&coloum);
printf("for mattrix B\n");
for(r=0;r<row;r++)
{
    for(c=0;c<coloum;c++)
    {
        printf("b[%d][%d]=",r,c);
        scanf("%d",&b[r][c]);
    }
    printf("\n");
}

printf("B=");
for(r=0;r<row;r++)
{
    for(c=0;c<coloum;c++)
    {
        printf("\t%d",b[r][c]);
    }
    printf("\n");
}
```

```
printf("for c mattrix\n");
for(r=0;r<row;r++)
{
    for (c=0;c<coloum;c++)
    {
        x[r][c]=a[r][c]+b[r][c];
    }
}
printf("a+b=");
for(r=0;r<row;r++)
{
    for(c=0;c<coloum;c++)
    {
        printf("\t%d",x[r][c]);
    }
    printf("\n");
}
return 0;
}
```

Output:

```
  "D:\Learning\code blc" x + | ~
enter the numbers of row and coloum=2
2
for mattrix A
a[0][0]=3
a[0][1]=4

a[1][0]=5
a[1][1]=6

A=      3      4
      5      6
enter the number of row and coloum=2
2
for mattrix B
b[0][0]=6
b[0][1]=7

b[1][0]=8
b[1][1]=9

B=      6      7
      8      9
for c mattrix
a+b=    9      11
      13     15

Process returned 0 (0x0)  execution time : 32.156 s
Press any key to continue.
```

Problem no 02:

Problem name: Find even and odd number form an array and count numbers.

Code:

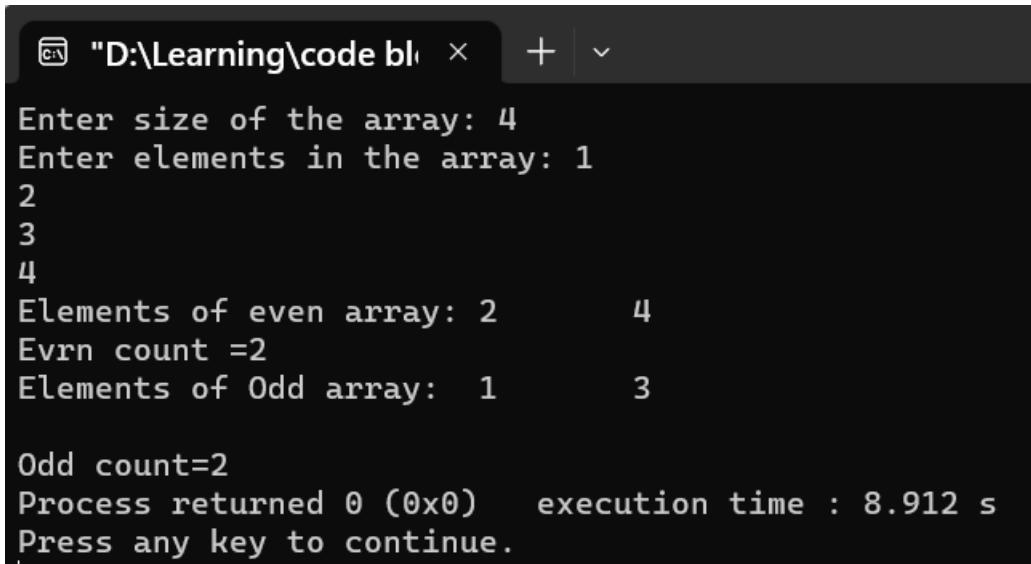
```
#include <stdio.h>

int main()
{
    int arr[100];
    int even[100], odd[100];

    int evenCount=0, oddCount=0;
    int i, 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]);
    }
    printf("Elements of even array:");
    for(i=0; i<size; i++)
    {
        if(arr[i]%2==0)
        {
            printf("\t%d",arr[i]);
            evenCount++;
        }
    }
    printf("\nEvrn count =%d\n",evenCount);
```

```
printf("Elements of Odd array:");
for(i=0;i<size;i++)
{
    if(arr[i]%2==1)
    {
        printf("\t%d",arr[i]);
        oddCount++;
    }
}
printf("\n\nOdd count=%d",oddCount);
return 0;
}
```

Output:



```
"D:\Learning\code bl" x + | ~
Enter size of the array: 4
Enter elements in the array: 1
2
3
4
Elements of even array: 2      4
Evrn count =2
Elements of Odd array:  1      3
Odd count=2
Process returned 0 (0x0)  execution time : 8.912 s
Press any key to continue.
```

Problem no 03:

Problem name: Find negative and positive number from an array and count number.

Code:

```
#include <stdio.h>

int main()
{
    int arr[100];
    int i, N, count1=0, count2=0;
    printf("Enter size of the array : ");
    scanf("%d", &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]);
            count2++;
        }
    }
}
```

```
    }
}

printf("\nCount=%d",count2);

printf("\n\nAll Positive number are:");

for(i=0;i<N;i++)

{
    if(arr[i]>0)

    {
        printf("%d\t",arr[i]);

        count1++;

    }

}

printf("\nCount=%d",count1);

return 0;
}
```

Output:

```
"D:\Learning\code bl" + ~

Enter size of the array : 5
Enter elements in array : 1
2
-5
-7
-4

All negative elements in array are : -5-7-4
Count=3

All Positive number are:1      2
Count=2
Process returned 0 (0x0)  execution time : 12.650 s
Press any key to continue.
```

Problem no 04:

Problem name: Insert operation of an array.

Code:

```
#include <stdio.h>

int main()
{
    int a[100];
    int i, size, num, x;
    printf("Enter size of the array : ");
    scanf("%d", &size);
    printf("Enter elements in array : ");
    for(i=0; i<size; i++)
    {
        scanf("%d", &a[i]);
    }
    printf("Enter element to insert : ");
    scanf("%d", &num);
    printf("Enter the element position : ");
    scanf("%d", &x);
    if(x > size+1 || x <= 0)
    {
        printf("Invalid position! Please enter position between 1 to %d", size);
    }
    else
```

```
{  
    for(i=size; i>=x; i--)  
    {  
        a[i] = a[i-1];  
    }  
    a[x-1] = num;  
    size++;  
    printf("Elements after insertion : ");  
    for(i=0; i<size; i++)  
    {  
        printf("%d\t", a[i]);  
    }  
}  
return 0;  
}
```

The screenshot shows a terminal window with the following output:

```
"D:\Learning\code bl" + v  
Enter size of the array : 5  
Enter elements in array : 1  
2  
3  
4  
7  
Enter element to insert : 8  
Enter the element position : 4  
Elements after insertion : 1 2 3 8 4 7  
Process returned 0 (0x0)  execution time : 17.196 s  
Press any key to continue.
```

Problem no 05:

Problem name: Delete operation of an array.

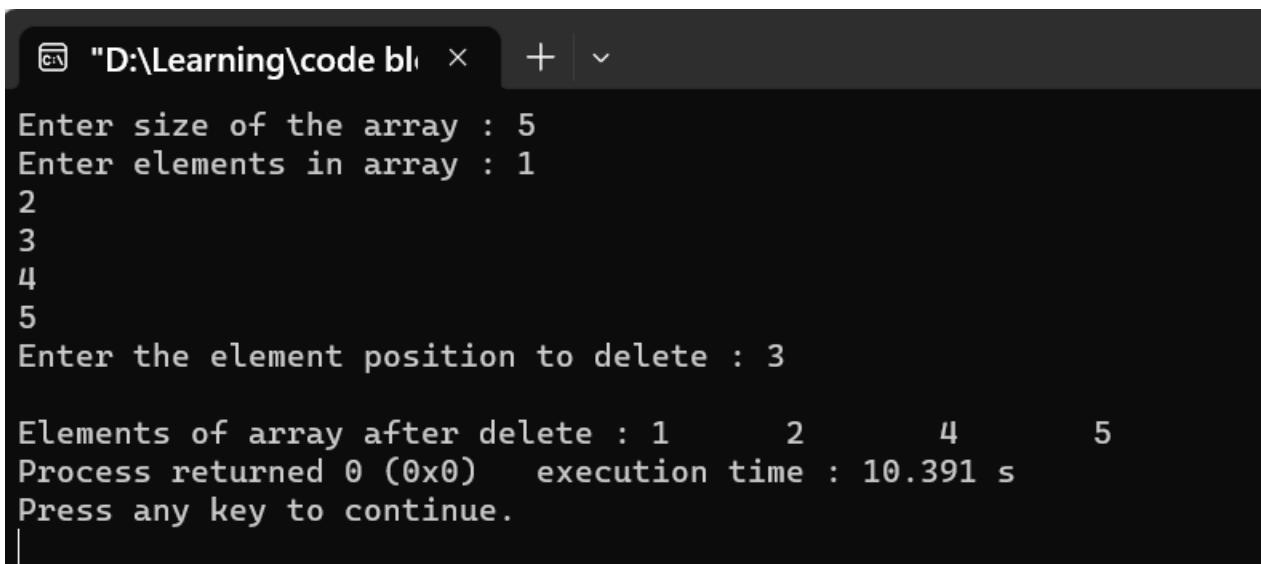
Code:

```
#include <stdio.h>

int main()
{
    int array[100];
    int i, asif, n;
    printf("Enter size of the array : ");
    scanf("%d", &asif);
    printf("Enter elements in array : ");
    for(i=0; i<asif; i++)
    {
        scanf("%d", &array[i]);
    }
    printf("Enter the element position to delete : ");
    scanf("%d", &n);
    if(n < 0 || n > asif)
    {
        printf("Invalid position! Please enter position between 1 to %d", asif);
    }
    else
    {
```

```
for(i=n-1; i<asif-1; i++)  
{  
    array[i] = array[i + 1];  
}  
asif--;  
printf("\nElements of array after delete : ");  
for(i=0; i<asif; i++)  
{  
    printf("%d\t", array[i]);  
}  
}  
return 0;  
}
```

Output:



The screenshot shows a terminal window with the following text output:

```
"D:\Learning\code bl" + ~  
Enter size of the array : 5  
Enter elements in array : 1  
2  
3  
4  
5  
Enter the element position to delete : 3  
Elements of array after delete : 1 2 4 5  
Process returned 0 (0x0)  execution time : 10.391 s  
Press any key to continue.
```

Bangladesh University of Business & Technology



Lab Report: 08

**Course Title: Structured Programming
Language Lab**

Code: CSE-112

Submitted By	Submitted To
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Submission Date: 29-03-2023