Assignment-4

1.Write a program in C to read n number of values in an array and display it in reverse order.

CODE

```c
C 01_reverse_order.c > ⊘ main()
1    #include<stdio.h>
2    int main()
3    {
4        int n, i;
5        printf("enter the size of an array : ");
6        scanf("%d",&n);
7        int arr[n];
8        //To take the input in array
9        for(i = 0; i < n; i++)
10       {
11           printf("Please give value for index %d : ",i);
12           scanf("%d",&arr[i]);
13       }
14       printf("Array printing in reverse order is:\n");
15       //for loop to print array in reverse order
16       for(i=n-1;i>=0;i--)
17       {
18           printf("%d\n",arr[i]);
19       }
20       return 0;
21   }
```

OUTPUT

```
enter the size of an array : 4
Please give value for index 0 : 1
Please give value for index 1 : 2
Please give value for index 2 : 3
Please give value for index 3 : 4
Array printing in reverse order is:
4
3
2
1
PS E:\Code\CSE 4192\Assignment\04>
```

2.Write a program in C to merge any two arrays entered by user at run-time.

CODE

```c
C 02_merge_two_array.c > ⊙ main()
1    #include<stdio.h>
2
3    int main()
4    {
5        int aSize, bSize, mSize, i, j;
6        int a[10], b[10], Merged[20];
7        printf("Enter Array 1 Size :  ");
8        scanf("%d", &aSize);
9        printf("\nEnter Array 1 Elements :  ");
10       for(i = 0; i < aSize; i++)
11       {
12           scanf("%d", &a[i]);
13       }
14       printf("\nEnter Array 2 Size :  ");
15       scanf("%d", &bSize);
16       printf("\nEnter Array 2 Elements :  ");
17       for(i = 0; i < bSize; i++)
18       {
19           scanf("%d", &b[i]);
20       }
21       for(i = 0; i < aSize; i++)
22       {
23           Merged[i] = a[i];
24       }
25       mSize = aSize + bSize;
26       for(i = 0, j = aSize; j < mSize && i < bSize; i++, j++)
27       {
28           Merged[j] = b[i];
29       }
30       printf("\nThe new array after merging is: %d\n", mSize); |
31       for(i = 0; i < mSize; i++)
32       {
33           printf(" %d \t ",Merged[i]);
34       }
35       return 0;
36   }
```

OUTPUT

```
Enter Array 1 Size :  4

Enter Array 1 Elements :  1 2 3 4

Enter Array 2 Size :  4

Enter Array 2 Elements :  5 6 7 8

The new array after merging is: 8
 1       2       3       4       5       6       7       8
PS E:\Code\CSE 4192\Assignment\04> ▮
```
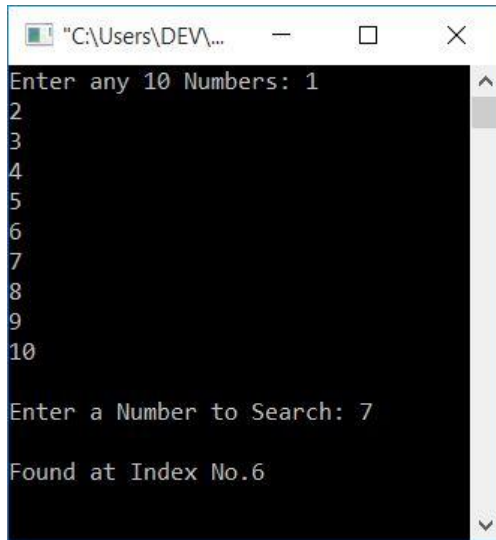
3.Write a Program in C that asks from user to enter any 10 array elements, and then ask to enter a number to search from the given array and print its position.

```
"C:\Users\DEV\...    —    □    ✕
Enter any 10 Numbers: 1
2
3
4
5
6
7
8
9
10

Enter a Number to Search: 7

Found at Index No.6
```

CODE

C 03_Search_element_is_an_array.c > ⊘ main()

```c
1    #include <stdio.h>
2
3    int main() {
4        int num, i, r, arr[30];
5        printf("Enter the number of elements in the array: ");
6        scanf("%d", &num);
7        printf("Enter the array elements: ");
8        for (i = 0; i < num; i++) {
9            scanf("%d", &arr[i]);
10       }
11       printf("Enter the item to be searched: ");
12       scanf("%d", &r);
13       //Research starts from the index 0
14       i = 0;
15       while (i < num && r != arr[i]) {
16           i++;
17       }
18       if (i < num) {
19           printf("The element is found in the position = %d", i++);
20       } else {
21           printf("Element not found!");
22       }
23       return 0;
24   }
```

OUTPUT

```
Enter the number of elements in the array: 5
Enter the array elements: 1 2 3 4 5
Enter the item to be searched: 3
The element is found in the position = 2
PS E:\Code\CSE 4192\Assignment\04> █
```

Lab-4

1. Write a c program use do while loop to print a natural number.

CODE

```c
C _do_While_Loop.c > ...
  1    #include <stdio.h>
  2
  3    int main()
  4    {
  5        int a = 11, b;
  6        do
  7        {
  8            printf("%d\n", a);
  9            a++;
 10        } while (a <= 10);
 11        return 0;
 12    }
 13
```

OUTPUT

```
PS H:\Class 4>  & 'c:\Users\HP\.vscode\extensions\ms-vscode.cpptools-1.11.5-win32-x64\debugAdapters\bin\Windows
DebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-vzwbtf2i.g5q' '--stdout=Microsoft-MIEngine-Out-1rvxgn2b.jtu'
'--stderr=Microsoft-MIEngine-Error-ngsurp1f.zhl' '--pid=Microsoft-MIEngine-Pid-fh42x1dd.z5j' '--dbgExe=C:\msys6
4\mingw64\bin\gdb.exe' '--interpreter=mi'
11
PS H:\Class 4>
```

2.Write a c program using while loop find positive and negative number.

CODE

```c
1    #include <stdio.h>
2    void main()
3    {
4        int num, i;
5        while(i<=5){
6        printf("Input a number :");
7        scanf("%d", &num);
8        if (num >= 0)
9            printf("%d is a positive number \n", num);
10       else
11           printf("%d is a negative number \n", num);
12
13       i++;
14       }
15   }
16
```

OUTPUT

```
Input a number :7
7 is a positive number
Input a number :5
5 is a positive number
Input a number :-5
-5 is a negative number
Input a number :-7
-7 is a negative number
Input a number :6
6 is a positive number
Input a number :5
5 is a positive number
PS E:\Code\CSE 4192\Class> []
```

3.Write a c program to find the sum of 10 input using array.

CODE

```c
1    #include <stdio.h>
2    int main()
3    {
4        int n, i, num[50], sum=0;
5        printf("Enter the numbers of elements : ");
6        scanf("%d", &n);
7
8        for(i=0; i<n; ++i)
9        {
10           printf("Initial Sum = %d\n",sum);
11           printf("%d. Enter number: ", i+1);
12
13           scanf("%d", &num[i]);
14           printf("Given Number = %d\t", num[i]);
15           sum += num[i];
16
17       }
18       printf("Total Sum = %d", sum);
19       return 0;
20   }
```

OUTPUT

```
Enter the numbers of elements : 4
Initial Sum = 0
1. Enter number: 1
Given Number = 1        Initial Sum = 1
2. Enter number: 2
Given Number = 2        Initial Sum = 3
3. Enter number: 3
Given Number = 3        Initial Sum = 6
4. Enter number: 4
Given Number = 4        Total Sum = 10
PS E:\Code\CSE 4192\Class> ▋
```

4.Write a c program to find multiplication table.

CODE

```c
#include <stdio.h>
int main()
{
    int n, times[10], i = 1;
    printf("Enter a Number for Multiplication Table : ");
    scanf("%d", &n);
    for (times[i] = 1; times[i] <= 10; times[i] = times[i] + 1)
    {
        printf("%d X %d = %d\n", n, times[i], n * times[i]);
    }
    return 0;
}
```

OUTPUT

```
Enter a Number for Multiplication Table : 7
7 X 1 = 7
7 X 2 = 14
7 X 3 = 21
7 X 4 = 28
7 X 5 = 35
7 X 6 = 42
7 X 7 = 49
7 X 8 = 56
7 X 9 = 63
7 X 10 = 70
PS E:\Code\CSE 4192\Class>
```