Lab Question 16: Array Sort – Ascending and Descending

Aim:
To write a C program to sort an array in ascending and descending order.

Algorithm:

1. Start the program.
2. Read array elements.
3. Use Bubble Sort (or any sorting method).
4. For ascending: compare and swap if arr[i] > arr[j].
5. For descending: compare and swap if arr[i] < arr[j].
6. Print sorted arrays.
7. Stop.

Code:

```
#include <stdio.h>
int main(){
   int arr[5] = {34, 12, 56, 9, 22}, n=5, i, j, temp;

   // Ascending
   for(i=0;i<n-1;i++){
      for(j=0;j<n-i-1;j++){
         if(arr[j]>arr[j+1]){
            temp=arr[j]; arr[j]=arr[j+1]; arr[j+1]=temp;
         }
      }
   }
   printf("Ascending: ");
   for(i=0;i<n;i++) printf("%d ", arr[i]);

   // Descending
   for(i=0;i<n-1;i++){
      for(j=0;j<n-i-1;j++){
         if(arr[j]<arr[j+1]){
```

```
            temp=arr[j]; arr[j]=arr[j+1]; arr[j+1]=temp;
        }
      }
   }
   printf("\nDescending: ");
   for(i=0;i<n;i++) printf("%d ", arr[i]);

   return 0;
}
```

output

- Input: [34,12,56,9,22]
- Output: Ascending = 9 12 22 34 56, Descending = 56 34 22 12 9

Result:
The program sorts an array in ascending and descending order.