1) Merging the two Sorted Array.

```
#include <stdio.h>
void main()
{
int ar1[50], ar2[50], ar3[100], m, n, i, j, k = 0;
Printf("\n Enter Size of array in Array1:");
Scanf("%d", &m);
Printf("\n Enter Sorted elemen in Array1: \n");
for(i=0; i<m; i++)
{
    Scanf("%d", &ar1[i]);
}
Print f("\n Enter Size of array in Array 2;");
Scan f("%d", &n);
Print f("\n Enter Sorted elements of array 2: \n");
for(i=0; i<n; i++)
{
Scan f("%d", ar2[i])
}
i=0;
j=0;
while (i<m && j<n)
{
```

```
if (ar1[i] < ar2[j])
{
   ar3[k] = ar1[i];
   i++;
 }
 else
 {
 ar3[k] =ar2[j];
  j++;
 }
 k++;
 }
 if (i >=m)
 {
      while (j<n)
        {
          ar3[k] = ar 2[j];
          j++;
          k++;
 }
 }
 else if (j >=n)
 {
   while (i<m)
```

```
{
    arr3[k] = arr1[i];
        i++;
        k++;
    }
}
Printf("\n After merging: \n");
for(i=0; i<cnt; i++)
{
    printf("\n %d", arr3[i]);
}
}
```

Output

```
Enter Size of array in Array1 : 3
Enter sorted elements of array 1:
1
3
5
Enter Size of array in Array 2: 2
Enter Sorted elements of array 2:
2
4
```

After Merging :

1
2
3
4
5

[Program finished]