```c
#include<stdio.h>
void main()
{

int array1[50],array2[50],merge[100],m,n,i,j,k=0;
clrscr();
printf("enter the size of the first array\n");
scanf("%d",&m);
printf("enter the elements of the first array\n");
for(i=0;i<m;i++)
{
scanf("%d",&array1[i]);
}

 printf("enter the size of the second array\n");
scanf("%d",&n);
printf("enter the elements of the second array\n");
for(j=0;j<n;j++)
{
scanf("%d",&array2[j]);
}
 i=0;
```

```c
scanf("%d",&array2[j]);
}
i=0;
j=0;
while(i<m && j<n)
{

if(array1[i]<array2[j])
{
merge[k]=array1[i];
i++;
}
else
{
merge[k]=array2[j];

j++;
}
k++;

}
```

```c
}
while(i<m)
{
merge[k]=array1[i];
i++;
k++;
}
while(j<n)
{
merge[k]=array2[j];
j++;
k++;
}
printf("the merged array is");
for(k=0;k<m+n;k++)
{
printf("\n %d",merge[k] );
}
getch();
}
```

```
enter the size of the first array
4
enter the elements of the first array
1
2
3
4
enter the size of the second array
5
enter the elements of the second array
5
6
7
8
9
the merged array is
1
2
3
4
5
6
7
8
9
```