

Practicle-5

Program to merge two sorted arrays

Code:-

```
//program to merge two sorted array
#include <iostream>
using namespace std;

int main()

{

    int n1 , n2 , n3;                //Dclaring variables
    cout << "Enter the number of elements::";
    cin >> n1;
    int arr1[n1];
    for(int i=0 ; i<n1 ; i++)
    {
        cout << "Enter the elements in sorted manner::";
        cin >> arr1[i];              //inputing first array
    }

    cout << "Enter the number of elements::";
    cin >> n2;
    int arr2[n2];
    for(int j=0 ; j<n2 ; j++)
    {
        cout << "Enter the elements in sorted manner::";    //inputing second array
        cin >> arr2[j];
    }

    n3=n1+n2;
    int arr3[n3], x=0 , y=0 ,k=0;
    while(x<n1 && y<n2)
    {
        if(arr1[x]<=arr2[y])
        {
            arr3[k++]=arr1[x++];
        }
        else
        {
            arr3[k++]=arr2[y++];
        }
        //comparing the elements and
        //copying them in the third array
    }
    while(x<n1)
    {
        arr3[k++]=arr1[x++];
    }
}
```

```

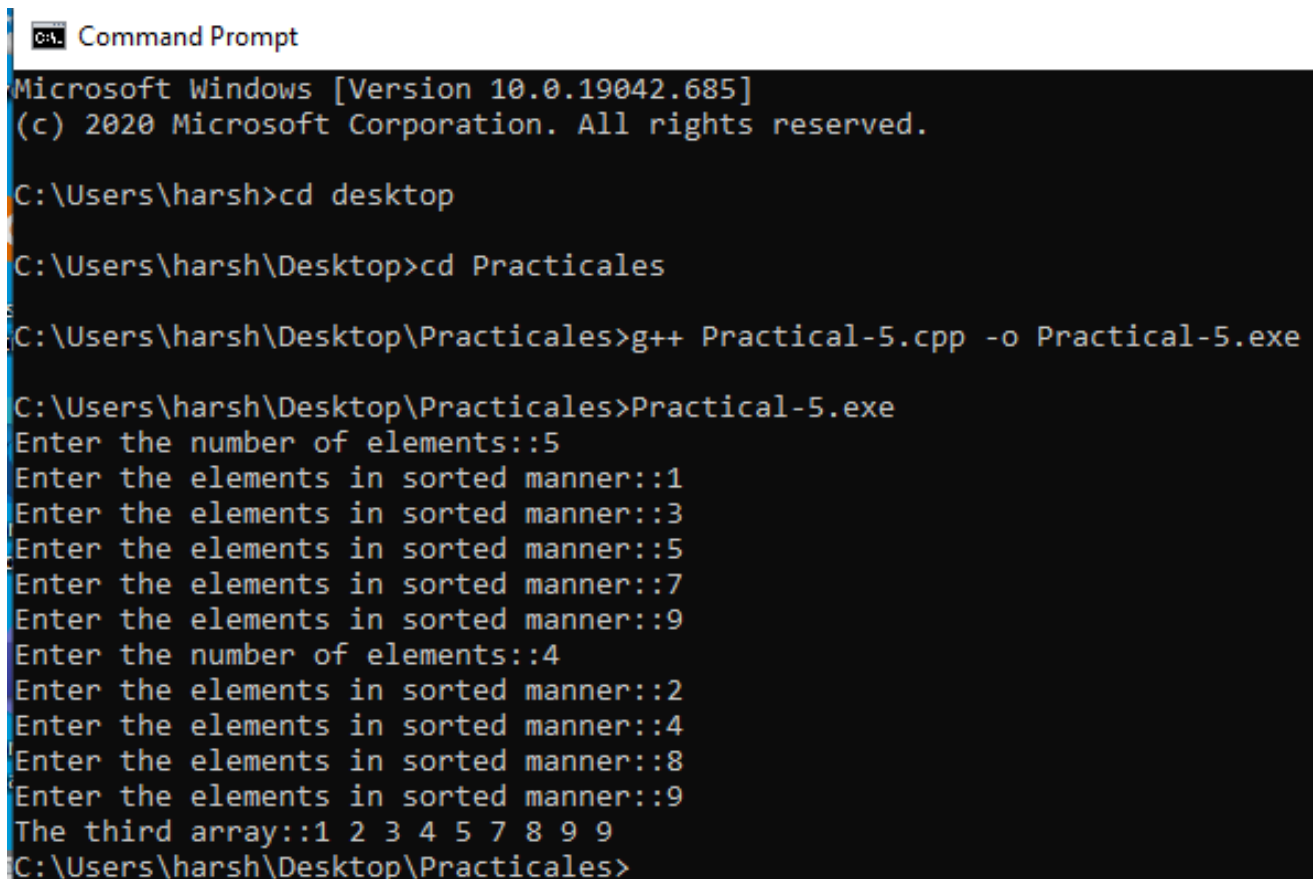
while(y<n2)                //copying the remaining elements
{
    arr3[k++]=arr2[y++];
}

cout << "The third array::";
for(int p=0; p<n3; p++)
{
    cout << arr3[p] << " ";    //printing the final merged array
}

return 0;
}

```

Output:-



```

C:\> Command Prompt
Microsoft Windows [Version 10.0.19042.685]
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C:\Users\harsh>cd desktop

C:\Users\harsh\Desktop>cd Practicales

C:\Users\harsh\Desktop\Practicales>g++ Practical-5.cpp -o Practical-5.exe

C:\Users\harsh\Desktop\Practicales>Practical-5.exe
Enter the number of elements::5
Enter the elements in sorted manner::1
Enter the elements in sorted manner::3
Enter the elements in sorted manner::5
Enter the elements in sorted manner::7
Enter the elements in sorted manner::9
Enter the number of elements::4
Enter the elements in sorted manner::2
Enter the elements in sorted manner::4
Enter the elements in sorted manner::8
Enter the elements in sorted manner::9
The third array::1 2 3 4 5 7 8 9 9
C:\Users\harsh\Desktop\Practicales>

```