NAME – RAJDEEP JAISWAL	**DATE – 17 NOV 2021**
BRANCH – BTECH CSE	**SEC = 608 - A**
UID -20BCS2761	**Subject – DS Lab**

AIM –

Write a program to sort an array of integers in descending order using merge sort?

CODE IN COPILER –

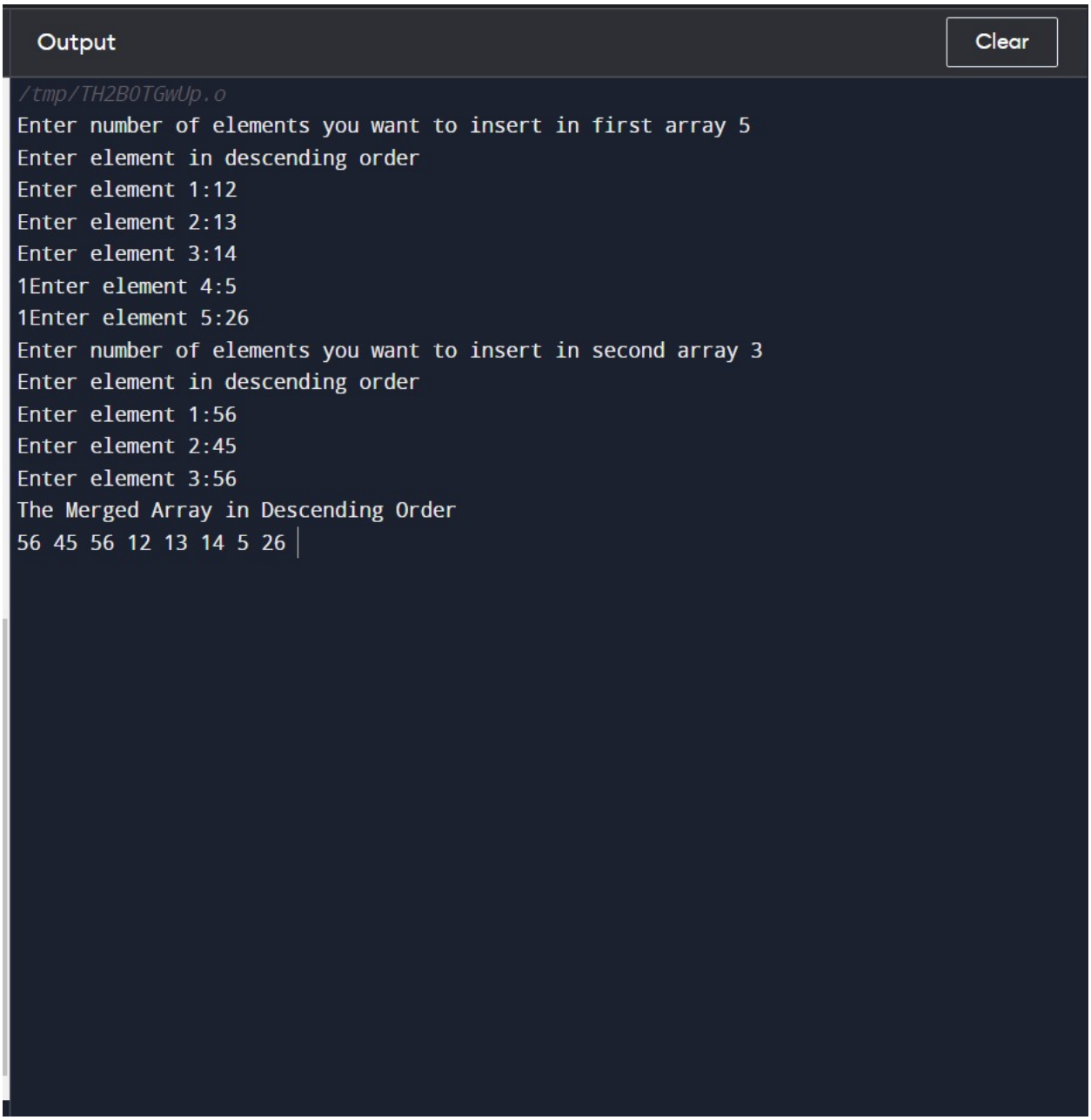
main.cpp

Run

```cpp
// Online C++ compiler to run C++ program online
#include<iostream>
using namespace std;

void Merge(int A[], int B[], int C[], int N, int M, int &K);

int main()
{
    int A[100], B[100], C[200],i,n,m,k;

    cout<<"\nEnter number of elements you want to insert in first array ";
    cin>>n;

    cout<<"Enter element in descending order\n";

    for(i=0;i<n;i++)
    {
        cout<<"Enter element "<<i+1<<":";
        cin>>A[i];
    }

    cout<<"\nEnter number of elements you want to insert in second array ";
    cin>>m;

    cout<<"Enter element in descending order\n";

    for(i=0;i<m;i++)
    {
        cout<<"Enter element "<<i+1<<":";
        cin>>B[i];
    }
```

```
    Merge(A,B,C,n,m,k);

    cout<<"\nThe Merged Array in Descending Order"<<endl;

    for(i=0;i<k;i++)
    {
        cout<<C[i]<<" ";
    }

    return 0;
}

void Merge(int A[], int B[], int C[], int N, int M, int &K)
{
    int I=0, J=0;
    K=0;

    while (I<N && J<M)
    {
        if (A[I]>B[J])
            C[K++]=A[I++];
        else if (A[I]<B[J])
            C[K++]=B[J++];
        else
        {
            C[K++]=A[I++];
            J++;
        }
    }

    for (int T=I;T<N;T++)
        C[K++]=A[T];

    for (int T=J;T<M;T++)
        C[K++]=B[T];
}
```

OUTPUT PROGRAM –



Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			