

NAME – RAJDEEP JAISWAL

DATE – 17 NOV 2021

BRANCH – BTECH CSE

SEC = 608 - A

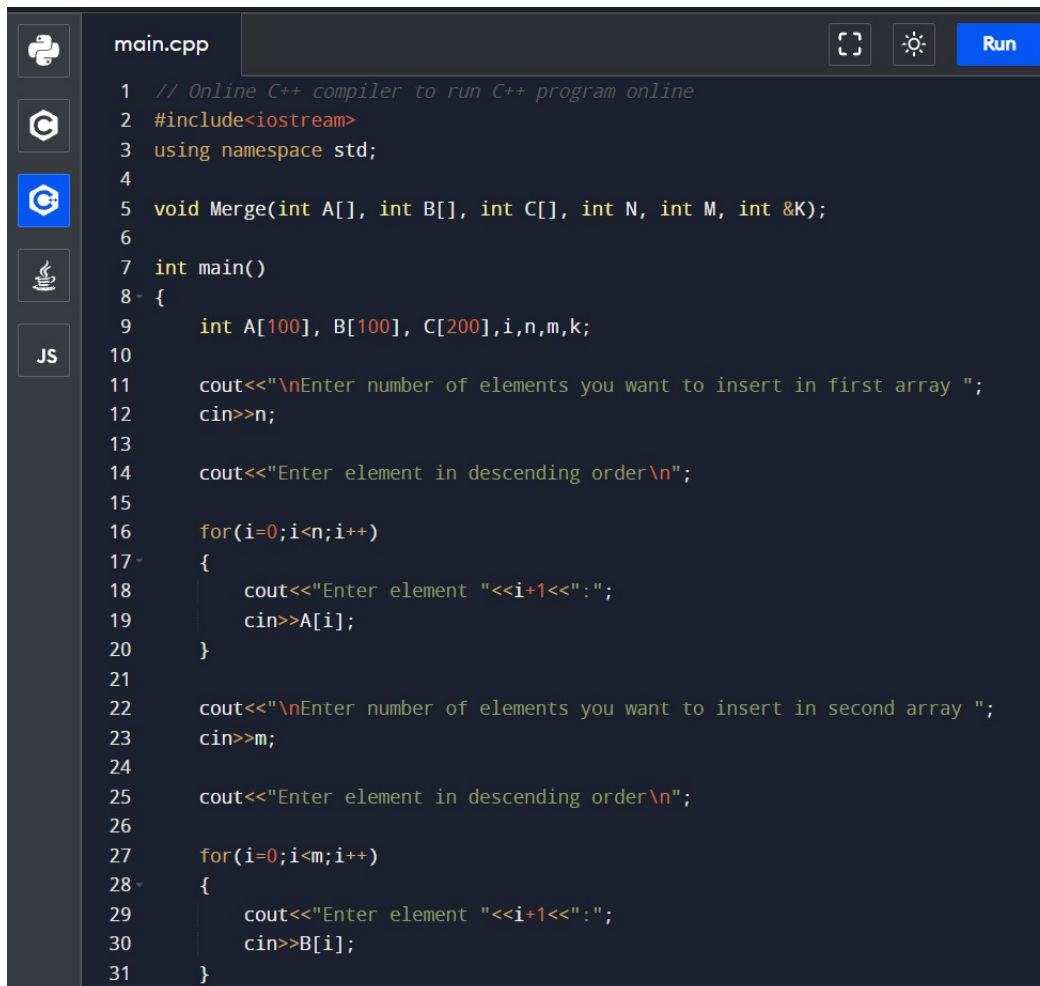
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Subject – DS Lab

AIM –

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

CODE IN COPILER –



```
main.cpp
1 // Online C++ compiler to run C++ program online
2 #include<iostream>
3 using namespace std;
4
5 void Merge(int A[], int B[], int C[], int N, int M, int &K);
6
7 int main()
8 {
9     int A[100], B[100], C[200], i, n, m, k;
10
11     cout<<"\nEnter number of elements you want to insert in first array ";
12     cin>>n;
13
14     cout<<"Enter element in descending order\n";
15
16     for(i=0; i<n; i++)
17     {
18         cout<<"Enter element "<<i+1<<":";
19         cin>>A[i];
20     }
21
22     cout<<"\nEnter number of elements you want to insert in second array ";
23     cin>>m;
24
25     cout<<"Enter element in descending order\n";
26
27     for(i=0; i<m; i++)
28     {
29         cout<<"Enter element "<<i+1<<":";
30         cin>>B[i];
31     }
```

```
33 Merge(A,B,C,n,m,k);
34
35 cout<<"\nThe Merged Array in Descending Order"<<endl;
36
37 for(i=0;i<k;i++)
38 {
39     cout<<C[i]<<" ";
40 }
41
42 return 0;
43 }
44
45 void Merge(int A[], int B[], int C[], int N, int M, int &K)
46 {
47     int I=0, J=0;
48     K=0;
49
50     while (I<N && J<M)
51     {
52         if (A[I]>B[J])
53             C[K++]=A[I++];
54         else if (A[I]<B[J])
55             C[K++]=B[J++];
56         else
57         {
58             C[K++]=A[I++];
59             J++;
60         }
61     }
62
63     for (int T=I;T<N;T++)
64         C[K++]=A[T];
65
66     for (int T=J;T<M;T++)
67         C[K++]=B[T];
68 }
```

OUTPUT PROGRAM –

Output

Clear

```
/tmp/TH2B0TGwUp.o
Enter number of elements you want to insert in first array 5
Enter element in descending order
Enter element 1:12
Enter element 2:13
Enter element 3:14
1Enter element 4:5
1Enter element 5:26
Enter number of elements you want to insert in second array 3
Enter element in descending order
Enter element 1:56
Enter element 2:45
Enter element 3:56
The Merged Array in Descending Order
56 45 56 12 13 14 5 26 |
```

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.			