**TASK-09**

**EXPLANATION:**

Suppose A, B, C are arrays of integers of size M, N, and M + N respectively. The numbers in array A appear in ascending order while the numbers in array B appear in descending order. Write a program in C++ to produce third array C by merging arrays A and B in ascending order. Make use of nested loop where required.

**INPUT:**

#include <iostream>

#include "abdullah"

using namespace std ;

int main ()

{

bool flag = true ;

while ( flag )

{

int size\_1 ;

cout << "Please enter size of array-01 : " ;

while ( ! ( cin >> size\_1) || size\_1 < 1 )

{

cin\_clear () ;

cout << "Please enter size of array-01 : " ;

}

int array\_1 [size\_1] ;

for ( int i = 0 ; i < size\_1 ; i++ )

{

cout << "Please enter element at index A." << i << " : " ;

while ( ! ( cin >> array\_1 [i]) )

{

cin\_clear ("No character!!") ;

cout << "Please enter element at index A." << i << " : " ;

}

insertionSort ( array\_1 , 0 , i ) ;

}

int size\_2 ;

cout << "Please enter size of array-02 : " ;

while ( ! ( cin >> size\_2) || size\_2 < 1 )

{

cin\_clear () ;

cout << "Please enter size of array-02 : " ;

}

int array\_2 [size\_2] ;

for ( int i = 0 ; i < size\_2 ; i++ )

{

cout << "Please enter element at index A." << i << " : " ;

while ( ! ( cin >> array\_2 [i]) )

{

cin\_clear ("No character!!") ;

cout << "Please enter element at index A." << i << " : " ;

}

insertionSort\_decending ( array\_2 , 0 , i ) ;

}

int size\_3 = size\_1 + size\_2 ;

int array\_3 [100] = {0} ;

int x = 0 ;

for ( int j = 0 ; j < size\_1 ; j++ )

array\_3[j] = array\_1 [j] ;

for ( int j = size\_1 ; j < size\_3 ; j++ )

{

static int x = 0 ;

array\_3[j] = array\_2 [x] ;

x++ ;

}

for ( int i = 0 ; i < size\_3 ; i++ )

{

cout << array\_3[i] << " " ;

}

insertionSort( array\_3 , 0 , size\_3 - 1 ) ;

system("cls") ;

cout << "Array\_01 is : " << endl ;

for ( int i = 0 ; i < size\_1 ; i++ )

{

cout << array\_1[i] << "\t" ;

}

cout << endl ;

cout << "Array\_02 is : " << endl ;

for ( int i = 0 ; i < size\_2 ; i++ )

{

cout << array\_2[i] << "\t" ;

}

cout << endl ;

cout << "Merged array is (array\_03) : " << endl ;

for ( int i = 0 ; i < size\_3 ; i++ )

{

cout << array\_3[i] << " " ;

}

flag = continuationLoop () ;

}

}

**OUTPUT:**





