```cpp
#include <iostream>
#define umbral 2

using namespace std;

void burbuja(int *T, int primero, int ultimo){
  int i, j;
  int aux;
  for (i = primero; i <ultimo; i++)
      for (j = primero; j <=i; j++)
          if (T[j] >T[j+1]){
              aux = T[j];
              T[j] = T[j+1];
              T[j+1] = aux;
          }
}

void muestra (int *v, int tam){

    for (int i=0;i<tam;i++)
        cout << v[i] << ", ";
    cout <<endl;
}


void Mezcla ( int primero, int ultimo, int centro, int *v ) {

    int x, y, z;
    int *aux;
    x = primero;
    y = centro+1;
    z = x;
    //aux = (int *) malloc (((ultimo+1)*8) * sizeof( int ));
    aux=new int[(ultimo+1)];
    while (( x <= centro ) && ( y <= ultimo )) {

        if ( v[x] <= v[y] ) {
            aux[z] = v[x];
            x++;
        } else {
                aux[z] = v[y];
                y++;
        }
        z++;

    }

    while ( x <= centro ) {
        aux[z] = v[x];
        x++;
        z++;
    }

    while ( y <= ultimo ) {
        aux[z] = v[y];
        y++;
        z++;
    }

    for ( x = primero; x <= ultimo; x++ ) {
        v[x] = aux[x];
    }

    //free ( aux );
    delete [] aux;
```

```cpp
67  }
68
69  /*------------------------------------------------------------*/
70
71  void Mergesort ( int primero, int ultimo, int *v ) {
72
73      int centro;
74
75
76      if ( ultimo-primero+1 <= umbral ) {
77              burbuja(v, primero, ultimo);
78      }else{
79          centro = ( primero + ultimo ) / 2;
80
81          Mergesort ( primero, centro, v );
82          Mergesort ( centro+1, ultimo, v );
83          Mezcla ( primero, ultimo, centro, v );
84
85      }
86
87  }
88
89  int main(){
90
91      int v[]={3, 8, 1, 9, 5, 4, 3, 8, 10};
92
93      cout<<"original: ";
94      muestra (v,9);
95
96      Mergesort(0,8,v);
97
98      muestra (v,9);
99
100
101     return 0;
102
103
```