

THE UNIVERSITY OF DODOMA

COLLEGE OF INFORMATICS AND VIRTUAL EDUCATION



CP 213: DATA STRUCTURE AND ALGORITHM ANALYSIS

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COURSE: BSc-CS

01:

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#include<iostream>

using namespace std;

void mergesort(int *,int,int);
void merge(int *,int,int,int);

int a[7],i;

int main()
{
    int a[7]={25,36,34,98,23,53,31};
    mergesort(a,0,6);
    cout <<" \n Numbers After Sort: \n";
    for(i=0; i<7; i++)
        cout << a[i] << " ";
    return 0;
}

void mergesort(int a[],int i,int j)
{
    int mid;
    if(i<j)
    {
        mid=(i+j)/2;
        mergesort(a,i,mid);
        mergesort(a,mid+1,j);
        merge(a,i,mid,j);
    }
}

void merge(int a[],int low,int mid ,int high)
{
    int b[7];
    int i,j,k=low;
```

```

i=low;
j=mid+1;
while(i<=mid && j<=high)
{
    if(a[i]<=a[j]){
        b[k]=a[i];
        i++;
    }
    else{
        b[k]=a[j];
        j++;
    }
    k++;
}

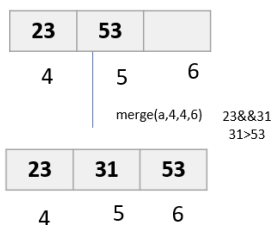
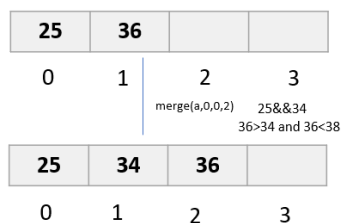
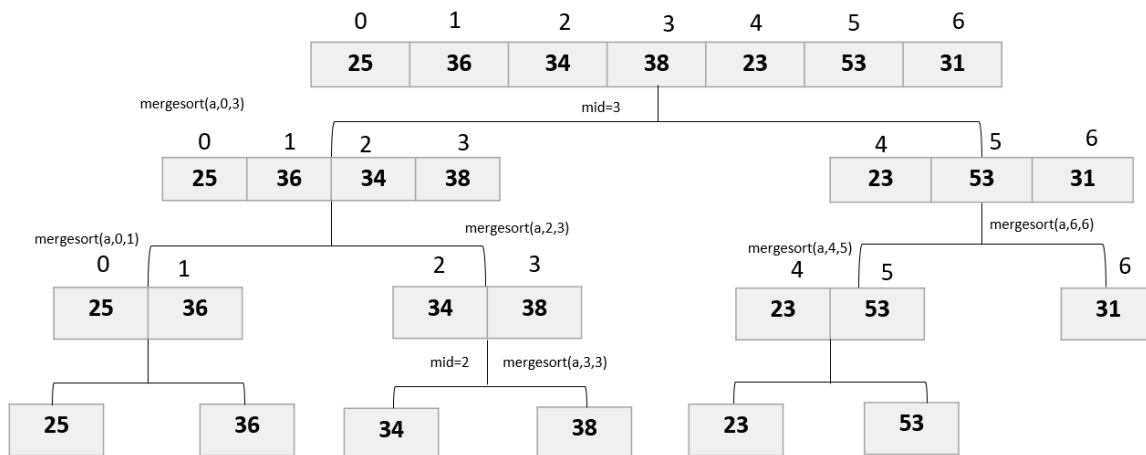
while( i<= mid){
    b[k]=a[i];
    i++;
    k++;
}

while( j<=high){
    b[k]=a[j];
    j++;
    k++;}

for(int s=low; s<=high; s++){
    a[s]=b[s];
}

}

```



Compares

