1BM19CS176

SELECTION SORT

```
#include <stdio.h>

void swap(int *xp, int *yp)
{
    int temp = *xp;
    *xp = *yp;
    *yp = temp;
}

void selectionsort(int list[], int size)
{
    int i, j, min;

    // One by one move boundary of unsorted subarray
    for (i = 0; i < size-1; i++)
    {
        // Find the minimum element in unsorted array
        min = i;
        for (j = i+1; j < size; j++)
          if (list[j] < list[min])
            min = j;

        // Swap the found minimum element with the first element
        swap(&list[min], &list[i]);
    }
}

/* Function to print an array */
void printArray(int list[], int size)
{
    int i;
    for (i=0; i < size; i++)
        printf("%d ", list[i]);
    printf("\n");
}

// Driver program to test above functions
int main()
{
    int size, list[25];
    printf("Enter the size of the list: ");
    scanf("%d",&size);
```

```
    printf("Enter the elements of the list: ");
    for(int i=0;i<size;i++)
    {
        scanf("%d",&list[i]);
    }
    selectionsort(list, size);
    printf("After selection sort: \n");
    printArray(list, size);
    return 0;
}
```

```
Enter the size of the list: 7
Enter the elements of the list: 89
12
75
902
8
45
30
After selection sort:
8 12 30 45 75 89 902
```

BUBBLE SORT

```
#include <stdio.h>
void bubblesort(int list[],int size)
{
    int temp,i,j;
    for(i=0;i<size;i++)
    {
        for(j=i;j<size;j++)
        {
            if(list[i]>list[j])
            {
                temp=list[i];
                list[i]=list[j];
                list[j]=temp;
            }
        }
    }
}
int main()
{
    int size,i,list[25];
```

```
    printf("Enter the size of the list: ");
    scanf("%d",&size);
    printf("Enter the elements: ");
    for(i=0;i<size;i++)
    {
        scanf("%d",&list[i]);
    }
    bubblesort(list,size);
    printf("List after bubblesort: ");
    for(i=0;i<size;i++)
    {
        printf("%d  ",list[i]);
    }
    printf("\n");
}
```

```
Enter the size of the list: 5
Enter the elements: 78
90
131
1
348
List after bubblesort: 1  78  90  131  348
```