DAA practice 1

//insertion sort

#include<iostream>

using namespace std;

void insertionsort(int arr[], int size){

for(int x=0;x<size;x++){

int i=arr[x];

int j=x-1;

while(i<arr[j] && j>=0){

arr[j+1]=arr[j];

j-=1;

}

arr[j+1]=i;

}

}

int main(){

int data[] = {9, 5, 1, 4, 3};

int size = sizeof(data) / sizeof(data[0]);

insertionsort(data, size);

for(int i=0;i<size;i++){

cout<<data[i]<<" ";

}

}

2.1

//insertion sort

#include<iostream>

using namespace std;

void insertionsort(double arr[], int size){

for(int x=0;x<size;x++){

double i=arr[x];

int j=x-1;

while(i<arr[j] && j>=0){

arr[j+1]=arr[j];

j-=1;

}

arr[j+1]=i;

}

}

int main(){

int n;

cout<<"Enter number of elements to sort: ";

cin>>n;

double data[n];

for (int i=0;i<n;i++){

cout<<"enter num";

cin>>data[i];

}

insertionsort(data, n);

for(int i=0;i<n;i++){

cout<<data[i]<<" ";

}

}

2.2

///insertion sort

#include<iostream>

using namespace std;

void insertionsort(double arr[], int size){

for(int x=0;x<size;x++){

double i=arr[x];

int j=x-1;

while(i<arr[j] && j>=0){

arr[j+1]=arr[j];

j-=1;

}

arr[j+1]=i;

}

}

int main(){

int n;

cout<<"Enter number of elements to sort: ";

cin>>n;

double data[n];

for (int i=0;i<n;i++){

cout<<"enter num";

cin>>data[i];

}

double k;

cout<<"Enter value whose location is to be searched";

cin>>k;

insertionsort(data, n);

for(int i=0;i<n;i++){

cout<<data[i]<<" ";

}

int temp=0;

for(int i=0;i<n;i++){

if(data[i]==k){

cout<<i+1;

}

}

}

2.3

//insertion sort

#include<iostream>

#include<cstring>

using namespace std;

void insertionsort(char arr[], int size){

for(int x=0;x<size;x++){

double i=arr[x];

int j=x-1;

while(i<arr[j] && j>=0){

arr[j+1]=arr[j];

j-=1;

}

arr[j+1]=i;

}

}

int main(){

int n;

cout<<"Enter number of elements in string: ";

cin>>n;

string s;

char data[n];

cin>>s;

strcpy(data,s.c\_str());

insertionsort(data, n);

for(int i=0;i<n;i++){

cout<<data[i]<<" ";

}

}

2.4 trial

//insertion sort

#include<iostream>

#include<cstring>

using namespace std;

void insertionsort(double arr[], int size){

for(int x=0;x<size;x++){

double i=arr[x];

int j=x-1;

while(i<arr[j] && j>=0 &&arr[j]>0){

arr[j+1]=arr[j];

j-=1;

}

arr[j+1]=i;

while(i>arr[j] && j>=0 &&arr[j]<0){

arr[j]=arr[j+1];

j++;

}

}

}

int main(){

int n;

cout<<"Enter number of elements to be sorted: ";

cin>>n;

double data[n];

for(int i=0;i<n;i++){

cout<<"enter element";

cin>>data[i];

}

insertionsort(data, n);

for(int i=0;i<n;i++){

cout<<data[i]<<" ";

}

}

//appendix

/\*if(arr[j]<0){

arr[j+1]=arr[j];

j+=1;

}

else\*/