**Assignment No.13(Sorting techniques).**

#include <iostream>

using namespace std;

class sortingAlgs{

float marks[30];

int count=0;

public:

void accept(){

cout<<"Enter count:";

cin>>count;

cout<<"Enter marks:";

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

cin>>marks[i];}

}

void Bubble(){

int i=0,j=0,temp=0;

for(i=0;i<count;i++){

for(j=0;j<count-1;j++){

if(marks[j]<marks[j+1]){

temp=marks[j];

marks[j]=marks[j+1];

marks[j+1]=temp;

}

}

}

cout<<endl<<"Topper students as per Bubble:";

for(int i=0;i<5;i++){

cout<<endl<<marks[i]<<"\t";}

}

void insertion(){

int i=0,j=0,temp=0;

for(i=1;i<count;i++){

for(j=i-1;j<count;j++){

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

temp=marks[j];

marks[j]=marks[i];

marks[i]=temp;

j--;

}

}

}

cout<<endl<<"Topper students as per insertion:";

for(int i=0;i<5;i++){

cout<<endl<<marks[i]<<"\t";}

}

void selection(){

int i=0,j=0,temp=0,small=0;

for(i=0;i<count-1;i++){

small=i;

for(j=i+1;j<count;j++){

if(marks[j]<marks[small]){

small=j;}

temp=marks[j];

marks[j]=marks[small];

marks[small]=temp;

}

}

cout<<endl<<"Topper students as per selection:";

for(int i=0;i<5;i++){

cout<<endl<<marks[i]<<"\t";}

}

};

int main() {

sortingAlgs s1;

int ch;

do{

cout<<endl<<"1.Enter elements....\n2.Bubble Sort....\n3.Selection sort...\n4.Insertion sort.....\n5.Exit....";

cout<<endl<<"Enter your choice:";

cin>>ch;

switch(ch){

case 1:

s1.accept();

break;

case 2:

s1.Bubble();

break;

case 3:

s1.selection();

break;

case 4:

s1.insertion();

break;

case 5:

break;

default:

cout<<"Wrong choice!!!!";

}

}while(ch!=5);

return 0;

}

**Output:**

1.Enter elements....

2.Bubble Sort....

3.Selection sort...

4.Insertion sort.....

5.Exit....

Enter your choice:1

Enter count:6

Enter marks:89.13

34.67

57.9

90.56

89.12

65.89

1.Enter elements....

2.Bubble Sort....

3.Selection sort...

4.Insertion sort.....

5.Exit....

Enter your choice:2

Topper students as per Bubble:

90.56

89.12

89

65.89

57

1.Enter elements....

2.Bubble Sort....

3.Selection sort...

4.Insertion sort.....

5.Exit....

Enter your choice:3

Topper students as per selection:

90.56

89

89

65

57

1.Enter elements....

2.Bubble Sort....

3.Selection sort...

4.Insertion sort.....

5.Exit....

Enter your choice:4

Topper students as per insertion:

90.56

89

89

65

57