//SE 47 (Selection Sort)

#include<iostream>

using namespace std;

template<class T>

class sort

{

public:

void swap(T \*p,T \*q)

{

T r;

r=\*p;

\*p=\*q;

\*q=r;

}

void selectsort(T a[],int num)

{int min;

for(int i=0;i<num-1;i++)

{min=i;

for(int j=i+1;j<num;j++)

{

if(a[j]<a[min])

{

min=j;

}

}

swap(&a[i],&a[min]);

}

}

void print(T a[],int num)

{

cout<<"Sorted array is:"<<endl;

for(int i=0;i<num;i++)

{

cout<<a[i]<<"\t";

}

}

};

int main()

{

int num,ch;

char choice;

sort<int>a1;

sort<float>a2;

int arr1[20];

float arr2[20];

do{

cout<<"Select any one option from below:\n1)Integer array\n2)Float array"<<endl;

cin>>ch;

switch(ch)

{

case 1 :cout<<"Enter the size of array:";

cin>>num;

cout<<"Enter the elements of array:"<<endl;

for(int i=0;i<num;i++)

{

cin>>arr1[i];

}

a1.selectsort(arr1,num);

a1.print(arr1,num);

break;

case 2 :cout<<"Enter the size of array:";

cin>>num;

cout<<"Enter the elements of array:"<<endl;

for(int i=0;i<num;i++)

{

cin>>arr2[i];

}

a2.selectsort(arr2,num);

a2.print(arr2,num);

break;

default : cout<<"You entered wrong choice"<<endl;

}

cout<<"Do you wish to continue(y/n)?"<<endl;

cin>>choice;

}while(choice=='y'||choice=='Y');

return 0;

}

Select any one option from below:

1)Integer array

2)Float array

1

Enter the size of array:5

Enter the elements of array:

5

4

3

2

1

Sorted array is:

1 2 3 4 5 Do you wish to continue(y/n)?

y

Select any one option from below:

1)Integer array

2)Float array

2

Enter the size of array:5

Enter the elements of array:

5.1

3.2

7.8

9

7.7

Sorted array is:

3.2 5.1 7.7 7.8 9 Do you wish to continue(y/n)?

n