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//OOP Lab 05 Templates
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#include<iostream>
using namespace std;

template <class T>

class selectionSort{
public:
    T a[20];
    int n;
    void input(){
        cout<<"\nHow many input you want to enter: ";
        cin>>n;
        for(int i=0;i<n;i++){
            cout<<i+1<<" ": ";
            cin>>a[i];
        }
    }

    //sorting started
    int SmallIndex(T a[],int i, int n){
        T mini;
        int position,j;
        mini = a[i];
        position = i;
        for(j=i+1;j<n;j++){
            {
                if(a[j]<mini)
                {
                    mini = a[j];
                    position=j;
                }
            }
        }
        return position;
    }

    void sortArr(){
        cout<<"\n\nInitial unsorted array: "<<endl;
        for(int i=0;i<n;i++){
            cout<<a[i]<<" ";
        }
        int pos = 0;
        T temp;
        T mini = a[pos];
        for(int i=0;i<n;i++){
            pos = SmallIndex(a,i,n);
            temp = a[i];
            a[i]=a[pos];
            a[pos] = temp;
        }
        cout<<"\n\nFinal sorted array: "<<endl;
```

```
for(int i=0;i<n;i++){  
    cout<<a[i]<<" ";  
}  
  
};  
  
int main(){  
    cout<<##### "For integer numbers #####"<<endl;  
    selectionSort <int>obj;  
    obj.input();  
    obj.sortArr();  
  
    cout<<"\n\n##### "For float numbers  
##### "<<endl;  
    selectionSort <float>obj1;  
    obj1.input();  
    obj1.sortArr();  
    cout<<"\n\n\n\n\n                    "<<endl;  
    return 0;  
}
```