OBJECT ORIENTED PROGRAMMING LABORATORY
LAB ASSIGNMENT 5

Problem Statement :

Write a function template selection sort . Write a program that inputs, sorts and outputs an integer array and a float array.

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Main Program

```cpp
#include<iostream>
using namespace std;
template<typename T>
void sort(T a[], int n)
{
        int pos_min, i;
        T temp;
        for(int i=0; i<=n-1; i++)
        {
                pos_min=i;
        for(int j=i+1;j<n;j++)
        {
                if(a[j]<a[pos_min])
                pos_min=j;
        }
        if(pos_min!=i)
        {
                temp=a[i];
                a[i]=a[pos_min];
                a[pos_min]=temp;
        }
        }
        cout<<"\nSorted elements are:\n";
        for(i=0;i<n;i++)
        cout<<"\t"<<a[i];
}
int main()
{
        int n,i,ch;
        int a[10];
        float b[10];
        do
        {
                cout<<"\nSELECTION SORT USING FUNCTION TEMPLATE";
                cout<<"\n1.Sort Integer Number\n2.Sort Float Number\n3.Exit";
                cout<<"\nEnter your choice:";
                cin>>ch;
                switch(ch)
```

```cpp
                {
                        case 1:
                        cout<<"\nSorting integer numbers";
                        cout<<"\nEnter how numbers to be sorted:";
                        cin>>n;
                        cout<<"\nEnter the numbers:"<<endl;
                        for(i=0;i<n;i++)
                        cin>>a[i];
                        sort<int>(a,n);
                        break;

                        case 2:
                        cout<<"\nSorting floating point numbers";
                        cout<<"\nEnter how numbers to be sorted:";
                        cin>>n;
                        cout<<"\nEnter the numbers:";
                        for(i=0;i<n;i++)
                        cin>>b[i];
                        sort<float>(b,n);
                        break;

                        case 3:
                        cout<<"Exit!!"<<endl;
                        exit(0);
                        }
                        }while(ch!=3);
        return 0;
}
```

```
*************************************OUTPUT*********************************
SELECTION SORT USING FUNCTION TEMPLATE
1.Sort Integer Number
2.Sort Float Number
3.Exit
Enter your choice:1

Sorting integer numbers
Enter how numbers to be sorted:5

Enter the numbers:
89
34
01
22
99


Sorted elements are:
    1    22    34    89    99
```

SELECTION SORT USING FUNCTION TEMPLATE
1.Sort Integer Number
2.Sort Float Number
3.Exit
Enter your choice:2

Sorting floating point numbers
Enter how numbers to be sorted:5

Enter the numbers:
89.44
89.43
1.99
67.33
67.332

Sorted elements are:
     1.99   67.33   67.332 89.43   89.44

SELECTION SORT USING FUNCTION TEMPLATE
1.Sort Integer Number
2.Sort Float Number
3.Exit
Enter your choice:3
Exit!!