

Practical No – 05 (Group B)

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Div: A

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Problem Statement :

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

Program code :

```
#include<iostream>
using namespace std;
int n;
#define size 10
template <class T>
void sel(T A[size])
{
    int i,j,min;
    T temp;
    for(i=0;i<n-1;i++)
    {
        min=i;
        for(j=i+1;j<n;j++)
        {
            if(A[j]<A[min]){
                min=j;
            }
        }
        temp=A[i];
        A[i]=A[min];
        A[min]=temp;
    }
    cout<<"Sorted array : "<<endl;
    for(i=0;i<n;i++)
    {
        cout<<A[i]<<"\t";
    }cout<<endl;
```

```

}

int main(){
int A[size];
float B[size];
int i;
int ch;
do{
cout<<"\n1.Integer values";
cout<<"\n2.Float values";
cout<<"\n3.Exit"<<endl;
cout<<"Enter a choice : ";
cin>>ch;
switch(ch){

case 1:
cout<<"Enter a total number of integer elements : ";
cin>>n;
cout<<"Enter a integer elements : ";
for(i=0;i<n;i++){
cin>>A[i];
}
sel(A);
break;

case 2:
cout<<"Enter a total number of float elements : ";
cin>>n;
cout<<"Enter a float elements : ";
for(i=0;i<n;i++){
cin>>B[i];
}
sel(B);
break;

case 3:
exit(0);
}
}
while(ch!=3);
return 0;
}

```

Output :

```
user@user-VirtualBox: ~/S211045_Atharva
user@user-VirtualBox:~/S211045_Atharva$ g++ template.cpp -o t -lgraph
user@user-VirtualBox:~/S211045_Atharva$ ./t

1.Integer values
2.Float values
3.Exit
Enter a choice : 1
Enter a total number of integer elements : 5
Enter a integer elements : 20 15 30 60 45
Sorted array :
15      20      30      45      60

1.Integer values
2.Float values
3.Exit
Enter a choice : 2
Enter a total number of float elements : 5
Enter a float elements : 22.2 10.8 45.9 30.6 15.7
Sorted array :
10.8    15.7    22.2    30.6    45.9

1.Integer values
2.Float values
3.Exit
Enter a choice : 3
user@user-VirtualBox:~/S211045_Atharva$
```