

Assignment No : 3

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Problem statement :

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

SOURCE CODE :

```
#include <iostream>
#include <limits>
using namespace std;

template<typename T>
T selection_sort()
{
    T a[10];
    T temp;
    for (int i = 0; i < 10; i++)
    {
        cout << "a[" << i << "]=";
        cin >> a[i];
    }
    for (int i = 0; i < 10; i++)
    {
        for (int j = i + 1; j < 10; j++)
        {
            if (a[i] > a[j])
            {
                temp = a[i];
                a[i] = a[j];
                a[j] = temp;
            }
        }
    }
    for (int i = 0; i < 10; i++)
    {
        cout << a[i] << "\n";
    }
}
```

```

int main()
{
    cout << "...Integer sorting...\n";
    selection_sort<int>();

    cout << "...Floating sorting...\n";
    selection_sort<float>();
}

```

```
/*
```

```
  OUTPUT:
```

```
    ...Integer sorting...
```

```
      a[0]=10
```

```
      a[1]=25
```

```
      a[2]=5
```

```
      a[3]=85
```

```
      a[4]=63
```

```
      a[5]=75
```

```
      a[6]=84
```

```
      a[7]=20
```

```
      a[8]=60
```

```
      a[9]=55
```

```
-----
```

```
      5
```

```
     10
```

```
     20
```

```
     25
```

```
     55
```

```
     60
```

```
     63
```

```
     75
```

```
     84
```

```
     85
```

```
-----
```

```
    ...Floating sorting...
```

```
      a[0]=10.2
```

```
      a[1]=20.20
```

```
      a[2]=25.25
```

```
      a[3]=63.23
```

```
      a[4]=1.25
```

```
      a[5]=85.2
```

```
      a[6]=96.47
```

```
      a[7]=54.7
```

```
      a[8]=50.50
```

```
      a[9]=25.45
```

```
-----
```

1.25
10.2
20.2
25.25
25.45
50.5
54.7
63.23
85.2
96.47

* /