

## Assignment -8

/\*PROBLEM STATEMENT-Array operations

Design a program with a template for sorting the accepted array and displaying it using integer or float type data.

Implement any sorting type using Generic Programming

\*/

```
#include <iostream>
```

```
using namespace std;
```

```
template <class T>
```

```
void sortArray(T arr[], int n) {
```

```
    for (int i = 0; i < n - 1; i++) {
```

```
        int minIndex = i;
```

```
        for (int j = i + 1; j < n; j++) {
```

```
            if (arr[j] < arr[minIndex])
```

```
                minIndex = j;
```

```
        }
```

```
        T temp = arr[i];
```

```
        arr[i] = arr[minIndex];
```

```
        arr[minIndex] = temp;
```

```
    }
```

```
}
```

```
template <class T>
```

```
void displayArray(T arr[], int n) {
```

```
    for (int i = 0; i < n; i++)
```

```
        cout << arr[i] << " ";
```

```
    cout << endl;
```

```
}
```

```
int main() {
```

```
    int choice;
```

```
    cout << "Choose data type:\n1. Integer\n2. Float\nEnter choice: ";
```

```
    cin >> choice;
```

```
    int n;
```

```
    cout << "Enter number of elements: ";
```

```
    cin >> n;
```

```
    if (choice == 1) {
```

```
        int arr[20];
```

```
        cout << "Enter " << n << " integer elements: ";
```

```

        for (int i = 0; i < n; i++)
            cin >> arr[i];

        sortArray(arr, n);
        cout << "Sorted array (Integers): ";
        displayArray(arr, n);
    }
    else if (choice == 2) {
        float arr[20];
        cout << "Enter " << n << " float elements: ";
        for (int i = 0; i < n; i++)
            cin >> arr[i];

        sortArray(arr, n);
        cout << "Sorted array (Floats): ";
        displayArray(arr, n);
    }
    else {
        cout << "Invalid choice!" << endl;
    }

    return 0;
}

```

```




Choose data type:
1. Integer
2. Float
Enter choice: 1
Enter number of elements: 5
Enter 5 integer elements: 1
4
3
7
8
Sorted array (Integers): 1 3 4 7 8








-----
(program exited with code: 0)


```






```
Choose data type:
1. Integer
2. Float
Enter choice: 2
Enter number of elements: 5
Enter 5 float elements: 2.5
1.3
4.8
3.2
2.1
Sorted array (Floats): 1.3 2.1 2.5 3.2 4.8




-----
(program exited with code: 0)
```









 sanskruti-0712 / OOP 

 |  

[Code](#) [Issues](#) [Pull requests](#) [Actions](#) [Projects](#) [Security](#) [Insights](#) 

  main  [OOP](#) /   [Add file](#) 

 **sanskruti-0712** Implement generic array sorting and display  c500601 · now 

Name	Last commit message	Last commit date
 <a href="#">Array-operations</a>	Implement generic array sorting and display	now
 <a href="#">Assignment-7</a>	Create Assignment-7	2 weeks ago
 <a href="#">Exeption Handling</a>	Create Exeption Handling	3 weeks ago
 <a href="#">area_calculator.cpp</a>	Add files via upload	last month
 <a href="#">ass3.cpp</a>	Add files via upload	last month
 <a href="#">bank.cpp</a>	Add files via upload	last month
 <a href="#">complex_num.cpp</a>	Add files via upload	last month
 <a href="#">emp_sys.cpp</a>	Add files via upload	last month