Objective:

- Works on issues related to templates code distribution in Files (.h/.cpp) and whole-part relationship implementation with generic classes.
- Working/Refresher with File Stream in text mode.

Task – 1: ***Generic Set Class***

In this task, you are required to redo Practice-1:Task-4 considering the following constraints:

- While implementing the Class Template `'Set'`, if you need to use array anywhere then you are only allowed to use Generic Array class implemented in Practice-1:Task-3. Use of primitive arrays not allowed anywhere in this task.
- You are free to add or subtract the data members for the Generic class `'Set'` but you must have a solid reason for every data member. Needless to say, but to remind you, the public interface will remain the same.
- Distribute your code in separate .h/.cpp files as demonstrated in lecture.

At the end, compare both approaches for the implementation of generic class Set i.e., Practice-1-Task-4 vs Practice-2-Task-1. Which one do you think is better and Why?

Task – 2: ***File Size in Bytes***

Write a function which returns the size of file in bytes.

Function Prototype

```
int getFileSize(const String & fileName);
```

Task – 3: ***File Copy & Append***

Write a function which copies the contents of one file and appends it into another file.

Function Prototype

```
void copyFile(const String & sourceFileName, const String & destinationFileName);
```

Task – 4: ***Find Replace Utility***

Function which finds all matching strings/substrings in file and replace all the occurrences with new given string.

Function Prototype

```
void findReplace(const String & fileName, const String & oldStr, const String & newStr);
```

Sample Run:

```
findReplace("test.txt", "Tested", "Testing");
```

File contents before running findReplace Utility	**File contents After running findReplace Utility**
TestedTested Find Replace Utility Let see how it goes. WhynotOKnot YEs ok. Tested Tested: This Testing may not be enough!	TestingTesting Find Replace Utility Let see how it goes. WhynotOKnot YEs ok. Testing Testing: This Testing may not be enough!