**Task 01**

**1. Understand, debug (if required) and execute three code files provided. Note down your observations and comments in a document file. You must note the time taken in three cases.**

**Common Bug:**

In each of the file,identifier named sort\_time is used instead of search\_time.

**Linear Search:**

As the data set contained only 5 elements, the linear search took 0 seconds to search the element and return its index.

Time\_taken=0

**Binary-Iterative Search:**

After observing this code, the possible error I noticed was that the wrapper function is defined above the helper function, due to which it can’t can helper function.

As the data set contains only 5 elements the time noted is equal to that of linear search algorithm.

Time\_taken=0

**Binary-Recusive Search:**

After observing this code, the possible error I noticed was that the wrapper function is defined above the helper function, due to which it can’t can helper function. Moreover the identifier called for recursive call had an error, ‘binarySearch’ is has been used instead of ‘binarySearchRecr’ that caused an error. In case the element is not present in the data set the function was returning nothing. Hence an else function returning -1 was added at the end of the recursive function.

As the data set contains only 5 elements the time noted is equal to that of linear search algorithm and Binary-Iterative algorithm.

Time\_taken=0

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