

Assignment # 1 , Data Strcutures 2017

Overview

In this assignment you will be implementing and testing both the [Linear Search](#) and [Binary Search](#) algorithms that we dicssued in class.

You will also be writing a driver to test the search algorithms and you will be measuring the run times of each search.

----- Details -----

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- 1 **RunTime Class** You will write the **RunTime.java** class which will **implement** the [Runtime Interface](#) , The interface may be downloaded from [RuntimeInterface.java](#)
- 2 **LinearSearch Class** You will write the **LinearSearch.java** class which will **inherit** from **RunTime.java** and **implement** the [Search Interface](#) using a linear search algorithm. The interface may be downloaded from [SearchInterface.java](#) Please note that your **search** method must measure the run time and add it to the **RunTime** class by using the **addRunTime()** method.
- 3 **BinarySearch Class** You will write the **BinarySearch.java** class which will **inherit** from **RunTime.java** and **implement** the [Search Interface](#) using a binary search algorithm. The interface may be downloaded from [SearchInterface.java](#) Please note that your **search** method must measure the run time and add it to the **RunTime** class by using the **addRunTime()** method.

4 **Driver Class** You will write the **Driver.java** class to test your implementations of:

1 **RunTime.java**

2 **LinearSearch.java**

3 **BinarySearch.java**

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6 The **Driver.java** will **implement** the [Driver Interface](#) . The interface may be downloaded from [DriverInterface.java](#) . Please note that, in addition to implementing the **DriverInterface**, you are also required to write your own **public static main(String[] args)** method in **Driver.java** that tests all of your classes and methods before submitting your assignment on **mimir**.

Assignment Link :

<http://comet.lehman.cuny.edu/sfakhouri/teaching/cmp/cmp338/s17/hw/hw1.html>