**Assignment:** Assignment 1 – PS07 - [Instructor Mapping]

**Group Name:** DSAD Group 70

**Contribution Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Name (as appears in Canvas)** | **ID NO** | **Contribution** |
| 1 | JATINDER KUMAR CHAURASIA | 2021c104115 | 100% |
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**Design and Time complexity analysis:**

For solving the problem statement, we have implemented the use of Graph ADT. As an abstract datatype, a graph is a positional container of elements that are stored at the graph’s vertices and edges. The time complexity of the solution provided is as below:

1. --------Function readApplications--------

One while loop has complexity of O(n).

1. ----------Function showAll--------------

Two for loops, each with complexity of O(n).

Therefore, total: O(n)

1. ----------Function DisplayHireList---------

The nested for loop has the complexity of O(n2)

A second for loop for printing in output file has

time complexity of O(n).

Therefore, total: O (n3)

1. --------Function displayCandidates --------

for loop has complexity of O(n).

Therefore, total:

O(n)

1. -------Function findCourseInstructors-----------

for loop has complexity of O(n),

while loop has complexity O(n)

Total time complexity of the program – maximum of all the functions O (n3)