**T] Big O Activity**

You may use online resources to assist you in answering the following questions:

1. What is **Big O**?

Big Order is an expression of execution time or space used by a program.

2. What does it tell us about algorithms and data structures?

Their complexity and execution time

3. What does **Time Complexity mean**?

A complexity that describes the amount of computer time it takes to run an algorithm

4. What does **(a)** **Average** and **(b)Worst** time complexity mean?

Minimum vs maximum amount of time it takes an algorithm to solve a problem for any input

What is the **Worst** time complexity for the following data structures’ **operations**.

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| --- | --- | --- | --- |
| Data Structure | Worst Time - Insert an Item into Structure | Worst Time - Delete Item from Structure | Worst Time - Search Through the Structure |
| 5. Array | O(n) | O(n) | O(n) |
| 6. ArrayList | O(n) | O(n) | O(n) |
| 7. HashMap | O(n) | O(n) | O(n) |
| 8. Singly Linked List | O(1) | O(1) | O(n) |
| 9. Stack | O(1) | O(1) | O(n) |
| 10. Queue | O(1) | O(1) | O(n) |