**Excercise – 2 Implementing the E-Commerce Search Function (Theory)**

**1.Compare the time complexity of linear and binary search algorithms.**

Answer:

**Linear Search:** Searches each element of the list one by one until it finds the target.

**Best case : O(1)**

**Average case: O(n)**

**Worst case: O(n)**

**Binary Search:** Searches the elements by repeatedly dividing a sorted list into half.

**Best case : O(1)**

**Average case:O(log n)**

**Worst case:O(log n)**

**2.Discuss which Algorithm is more suitable for your platform and why.**

**Justification :**

Binary Search algorithm is best for building a search funtion for the platform.This Algorithm works well for large datasets with a time complexity of O(log n) which is better than the Linear search algorithm.

But this algorithm needs the sorted data,as there would be a well structured and organised data used in these platforms we can able to use the binary search.