CHAPTER SUMMARY

1. **Sorting Algorithms:**

   - Iss chapter mein mojood sorting algorithms sab ek array ko data storage structure ke taur par qaraar dete hain.
   - Sorting mein data items ke keys ko mawafiqat karna shamil hai aur un items ko (haqeeqatan, items ke references ko) tabdeel karna jab tak woh tarteeb mein na aajayein.

2. **Time Complexity:**

   - Iss chapter ke tamam algorithms $O(N^2)$ waqt mein execute hote hain. Lekin phir bhi, kuch algorithms doosron se kafi zyada tez ho sakte hain.

3. **Invariant:**

   - Invariant woh shart hai jo ek algorithm chal raha hai ke doran kabhi nahi badalti.

4. **Bubble Sort:**

   - Bubble sort sab se kam eficient, lekin sab se simple sort hai.

5. **Insertion Sort:**

   - Insertion sort iss chapter mein bayan kiye gaye $O(N^2)$ sorts mein sab se aam istemal hone wala hai.

6. **Stability in Sorting:**

   - Ek sort stable hota hai agar uske andar aise elements ke order ko barqarar rakha jaaye jo ke same key ke hain.

7. **Temporary Variables:**

   - Iss chapter ke tamam sorts mein ek se zyada temporary variable ki zarurat nahi hoti, jinme original array bhi shamil hai.