

### **Task (5)**

**1- Suggest a solution for the collision problem in your hash table code of task 4.**

**Hint: A collision occurs when the algorithm generates the same hash for more than one value.**

#### **Answer:**

One solution for the collision problem in hash table code is to use a technique called chaining. In this technique, each bucket in the hash table contains a linked list of values that have the same hash value. When a new value is added to the hash table, it is added to the linked list in the appropriate bucket. When searching for a value, the hash function is used to determine the appropriate bucket, and then the linked list in that bucket is searched for the value. This approach ensures that all values with the same hash value are stored together, reducing collisions and improving performance.