Assignment-7

1. **What are the arguments for and against representing Boolean values as single bits in memory?**

For : Using a single bit instead of an entire byte will save memory so boolean variables stored in single bits are space efficient
Against : Access became slower when they were stored as bytes.

2. **Compare the tombstone and lock-and-key methods of avoiding dangling pointers, from the points of view of safety and implementation cost.**

Tombstone	Lock-and-key
It takes more memory	It takes less memory.
It does not require any additional CPU time.	It requires additional CPU time.
It is less secured.	It is more secured.
A tombstone is the entity which works as a link between a pointer and the heap-dynamic data in area of memory pool.	It approaches expresses the pointers as ordered pairs of keys and address.

3. Explain all of the differences between subtypes and derived types.

- In Subtype, we can add additional functionalities rather than the base type. But, we can't do that for the derived type.
- A Subtype is the type which is compatible with Base type. Whereas, derived type is the type which is derived from Parent class.

4. What significant justification is there for the -> operator in C/C++.

The operator (->) is used to access the members of structure through pointer to a structure in C language. Whether in C++, it is used to access both the struct/class members.

Arrow operator is introduced in C, so it continued in C++ on class members as C++ support the object-oriented programming.

5. What are all of the differences between the enumeration types of C++ and those of Java?

In C++ enumeration is a set of named integral constants. In Java, an enumeration tends to be named instance of a class.

C++ enumerator type does not include fields, methods and constructors. Whereas, in Java, enumerator includes constructor, fields and functions.