**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.

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

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| --- | --- |
| **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.