**Homework # 1**

**Difference between Pointer Variable and Reference Variable**

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| **Pointer Variable** | **Reference Variable** |
| A pointer is a variable that stores the **memory address** of the variable to which it points to. | A reference variable is like a **nickname/alias** for an already existing variable. It creates a **second name** for a variable that can be used to modify the content stored in that variable. |
| A pointer variable is declared using an **asterisk ‘\*’.** | A reference variable is declared using an **ampersand ‘&’.** |
| A pointer variable is dereferenced using the asterisk ‘\*’ to access the memory location of the variable it points to. | A reference variable doesn’t need any asterisk ‘\*’ to access the value. |
| A pointer variable can **point** to **multiple variables** but **only one** at a **time.** | A reference variable can only **refer** to a **single variable** and **no other variable.** |
| **Address** of a **pointer variable** is different and the **address** of the **variable pointed to by the pointer** is different. | **Address** of the **reference variable** is **same** as the **address** of the **referred variable**. |
| NULL value can be assigned to a pointer variable. | NULL value cannot be assigned to a reference variable. |