* POINTER: -
* What is pointer: - Explain what pointers are in C and how they are declared and initialized. Why are pointers important in C?

Declaration: - data\_type \*pointer\_name;

**Initialization: - int a = 5;**

**int \*ptr = &a; // assign address of variable 'a' to pointer 'ptr'**

* Why Are Pointers Important in C?

| **Reason** | **Explanation** |
| --- | --- |
| **Memory Efficiency** | Allows direct memory access and manipulation. |
| **Dynamic Memory Allocation** | Used with malloc(), calloc(), free(), etc. |
| **Function Arguments** | Used to pass arguments **by reference**, enabling functions to modify actual values. |
| **Building Data Structures** | Essential for creating linked lists, trees, and other dynamic structures. |
| **Array and String Handling** | Arrays and strings are essentially pointers. |