Coding Set 1

1. Print Address and Value of a Variable

Write a program to declare an integer variable. Use a pointer to print the **address** and **value** of that variable.

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2. Swap Two Numbers (Call by Value vs Call by Reference)

Write two functions:

- One that swaps numbers using **call by value**.
- One that swaps numbers using **call by reference** (pointers).
  Show the difference in output.

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3. Increment a Variable using Pointer Parameter

Write a function void increment(int *p) that increases the value of an integer by 1. Pass the variable's address to this function and print the updated value.

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4. Sum of Two Numbers using Pointers

Write a function that takes two integer pointers as parameters and returns their sum. Call this function in main.

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5. Find Maximum of Three Numbers (Using Pointers as Parameters)

Write a function int max(int *a, int *b, int *c) that returns the largest of three numbers.

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6. Access Array Elements using Pointers

Write a program to input 5 integers in an array. Use pointer arithmetic (not indices) to print all the elements.

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7. Reverse an Array (Pointer Parameter)

Write a function void reverse(int *arr, int n) that reverses the elements of an array in place using pointers.

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8. String Length using Pointer Traversal

Write a function int strLength(char *s) that calculates the length of a string without using strlen. Use pointer movement.

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9. Array of Pointers to Strings

Declare an **array of pointers to char**, store 5 names, and print them one by one.

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10. Pointer to Array vs Array of Pointers

Write a program to demonstrate the difference between:

- A pointer to an array (int (*p)[5])
- An array of pointers (int *arr[5])
  Show how elements are accessed in both cases.