pointer questions in C++ programming.

1. Simple Pointer Declaration

Declare a pointer variable ptr that can store the address of an integer.

Initialize it with the address of an integer variable num and display the value pointed to by ptr.

2. Pointer Arithmetic

Declare an array of integers, then declare a pointer and initialize it with the address of the first element of the array.

Use pointer arithmetic to display the third element of the array.

3. Dynamic Memory Allocation

Allocate memory for an integer dynamically using new. Assign a value to the allocated memory and display it. Don't forget to release the memory using delete.

4. Function Pointers

Declare a function add that takes two integers as parameters and returns their sum.

Declare a function pointer ptr that can point to this function. Use the pointer to call the add function.

5. Pointer to Pointer

Declare an integer variables a.

Declare a pointer ptr1 that points to a, and a pointer ptr2 that points

to ptr1.

Assign a value to a using ptr2 and display the value of a.

6. Pointers and Functions

Write a function swap that takes two integer pointers and swaps the values they point to.

Write a program to input two integers, call the swap function, and display the swapped values.