Pointers

A. Basic pointer interaction

Complete the code given in basic_pointers.cpp by putting cout lines below the assignments. Keep the compiler happy and make sure the program keeps running correctly after each addition.

B. Functions using pointers

Create a C++ program that shows some features of pointers and scope. Pass a variable to a function (a) "by value", (b) by a pointer and (c) "by reference". In all these cases show the contents of the variable outside and inside the function, change its value inside the function and show the differences and similarities of these approaches. Make clear in which case(s) the function creates a copy and in which case(s) the function operates on the original variable.

C. Pointers to objects

1. create a simple class containing at least one private variable, a method to give this variable a new value and a method to get its value.

2. create some objects of this class

3. make a pointer point to one of the objects and call the set() and get() methods through the pointer

4. Create an array of 50 pointers for your class type

5. Fill the array with pointers to objects of your class type, then give all objects a value and call their get() functions via their pointers and show the results in a convincing way.