

C++ Programming Lab #3

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Learning Objectives: Learn dynamic memory allocation within objects.

Turn-In Instructions: Submit a screenshot of your code's output and copy that into a word document. Below the output, copy and paste your code.

Helpful Context: Pointers exist in C++ just like they do in C. However, whereas you would often use `malloc()` in C, you can use the keyword 'new' in C++ to dynamically allocate memory. As review, memory is allocated dynamically when the compiler does not know how much memory to allocate at compile time. In other words, the amount of memory that is allocated often relies on user input, in one way or another.

1. Create a `BankAccount` class. In the `BankAccount` class, you will need to use dynamic memory allocation to create integer variables `balance` of the user and a `String` for the name of the user. You need to make an ID integer variable, but this will be statically allocated. The `BankAccount` class must have a constructor and a destructor.
2. Create a Driver Class where you utilize the `BankAccount` class you just made. Create five individual `BankAccount` objects and put them all in a vector. This allows you to iterate through the `BankAccount` objects using the `advance()` method.