Modern C++ Overview
Part Five Exercises

Lambda-local Variables

- How can we create a variable which is local to a lambda body?
- Does the variable need to be declared auto?
- Does the variable need to be initialized?
- Write a program with a lambda expression which has a variable that is local to its body

Lambda-local Variables

- Can we initialize a lambda-local variable from a captured variable?
- What syntax do we use to capture the variable?
- Write a program which uses a lambda with a local variable which is initialized from a captured variable

Lambda-local Variables and Capture by Move

- How can a lambda expression capture by move?
- Write a program in which a lambda expression captures by move

Random Number Classes

- Write a program which prints out 10 random integers between 0 and 100
- Write a program which prints out 10 random floating-point numbers between 0 and 1

Random Number Classes

- Why is it generally a bad idea to use a local variable for a random number engine?

std::unique_ptr

- Briefly describe how std::unique_ptr is implemented
- In terms of memory usage and efficiency, how does unique_ptr compare to traditional pointers?

std::unique_ptr and RAII

- Explain how unique_ptr follows the principles of RAII

unique_ptr initialization

- Write a simple program that creates and initializes a unique_ptr object and performs some operations on it
- What changes would you need to make your program compile under C++11?
- (Optional) Put your compiler into C++11 mode and check your answer to the previous question