Modern C++ Overview
Part Five Solutions

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deleted and defaulted operators

- Describe what effect the "delete" and "default" keywords have in the following statements

```
test(const test& other) = delete;
test(const test& other) = default;
```

  - "delete" means that the copy constructor for this class cannot be called. This prevents objects of this class from being copied
  - "default" means that the compiler will generate a default copy constructor which calls the copy constructor of all the data members of the class

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deleted and defaulted operators

- Why are these keywords useful?
  - "delete" allows us to write a class that cannot be copied (but could still be moved)
  - "default" saves us from having to write our own default special member function, if that is all we want. (Sometimes this is necessary; for example, if a copy constructor is defined, the compiler will not generate a move constructor). This avoids errors and the need to maintain a hand-written function
  - "default" also helps document the code, even if the compiler would have generated it anyway. It is not always immediately obvious which special member functions will be generated, particularly in derived classes

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Class which can be moved but not copied

- Write a class which can be moved but not copied, using the "delete" and "default" keywords where appropriate
- Write a program which creates objects of this class. Demonstrate that move operations are allowed, but copying objects is not

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Random number example

- 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

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Random engine usage

- Why is it generally a bad idea to use a local variable for a random number engine?
  - Creating an engine is fairly time-consuming
  - Creating a new engine will reset the sequence
  - Usually you will only need one instance per program anyway

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