Forwarding References Exercises

Nested References

- Is it possible to create a reference to a reference?

- Write a simple program to illustrate your answer

Reference Collapsing Rules

- What is meant by "reference collapsing"?
- What rules are used for reference collapsing in C++11?

&& Argument Parameters

- What is the effect of putting "&&" after an argument of specific type?

  func(Test&& x);

&& Template Argument Parameters

- In a template function, what effect does putting "&&" after a template parameter argument have?

```
template <typename T>
func(T&& x);
```

- Write a simple program to demonstrate that a function with a forwarding reference argument can be called with either an lvalue or an rvalue

Template Argument Deduction

- Consider this function with an argument which is a forwarding reference

        template <typename T>
        func(T&& x);

- What will be the prototype of the instantiated function if it is called with
  - An lvalue object of class Test
  - An rvalue object of class Test
  - (For simplicity, assume that the instantiated function has the same name)

Why Are Forwarding References Useful?

- Explain why forwarding references are useful