Template Specialization Solutions

Template Specialization

- What is meant by "template specialization"?
  - A template specialization means that a template is re-implemented using specific types instead of generic parameters
- When is template specialization useful?
  - Template specialization is useful when
  - We want certain types to be handled differently from in the generic case
  - The generic case gives incorrect behaviour for some types
  - Using a specific type allows us to optimize the code

Template Specialization Syntax

- Briefly describe how to write a template specialization
  - Leave the <> empty
  - Use concrete types instead of parameters
  - The specialized template must appear after the generic template in the source code

Instantiation

- When there is a generic template with a template specialization, how does the compiler decide which one to use?
  - The compiler always chooses the most specific alternative which matches

Partial Specialization

- What is meant by "partial specialization" of a template?
  - Partial specialization uses a family of specific types instead of a single specific type
  - e.g. pointers are handled differently from value objects