

# Namespaces Solutions

# Namespace

- Briefly explain what is meant by the term "namespace" in C++
  - A namespace groups together related symbols, usually within a library
- Give an example of a namespace
  - The C++ Standard Library defines the std namespace
  - This groups together the names of all the functions, types and variables (such as cout) defined by the Standard Library

# Namespace example

- Write down code to
  - Define a namespace
  - Declare a class inside this namespace
  - Create an object of this class, outside the namespace

```
namespace abc {  
    class Test;  
}
```

```
abc::Test alphaTest;
```

# Global namespace

- What is meant by the term "global namespace"?
  - The global namespace is used for all symbols that are not declared inside a specific namespace
- How do we declare a symbol in the global namespace?
  - Declare it outside any namespace
- Give an example of how to unambiguously refer to a symbol from the global namespace
  - `::Test globalTestObject;`

# Name Hiding

- What is meant by "name hiding"?
  - When a name is declared in a namespace which is the same as a name outside the namespace, the outside name is "hidden" by the inside name
- Write a program which demonstrates name hiding
- Add code to your program which makes the outside name accessible within the namespace

# Using Declarations

- The following code has three definitions of a Test class
- Which version of Test will be used to create testObject?

```
class Test;  
namespace abc {  
    class Test { ... };  
}  
namespace xyz {  
    class Test { ... };  
}
```

```
using xyz::Test;  
Test testObject;
```

// Creates an object of xyz::Test