Started on	Monday, 6 February 2023, 8:41 AM
State	Finished
Completed on	Monday, 6 February 2023, 9:12 AM
Time taken	30 mins 29 secs

Information

Read Section 18.2 of the text and the lecture handout on namespaces.

To keep code fragments small, it may be necessary to sometimes remove headers from the code. Don't provide ***doesn't compile*** as a valid answer only because certain headers are NOT included in a code fragment. Instead, assume all necessary headers are included in the code fragment.

Question **1**

Correct

Marked out of 3.00

Which one is the correct description of the One Definition Rule?

Select one:

- In a C++ program, a name [of a variable or function or type] can be declared any number of times within its scope, however, it can only be defined once. ✔
- In a C++ program, a name [of a variable or function or type] can be defined any number of times within its scope, however, it can only be declared once.
- In a C++ program, a name [of a variable or function or type] must be declared and defined only once within its scope.

Question **2**

Correct

Marked out of 3.00

Does the following code compile?

```
namespace helpers {
  int counter {1};
}

namespace helpers {
  int strength {2};
}

namespace helpers {
  int Div2(int value) { return value/2; }
}

int main() {
  std::cout << helpers::counter << "\n";
  std::cout << helpers::strength << "\n";
  std::cout << helpers::Div2(8) << "\n";
}
```

Select one:

- True ✔
- False

Question **3**

Correct

Marked out of 2.00

What is the output of the following code?

```
namespace A {
  char c{'a'};
}

char c{'b'};

int main() {
  using namespace A;
  std::cout << c;
}
```

Select one:

- a
- b
- Code outputs nothing
- Code doesn't compile ✔

Question **4**

Correct

Marked out of 2.00

What is the output of the following code fragment?

```
namespace A {
  char c{'a'};
}

char c{'b'};

int main() {
  std::cout << c;
}
```

Select one:

- a
- b ✔
- ab
- Code outputs nothing
- Code doesn't compile

Question **5**

Correct

Marked out of 2.00

Write **NC** if the following code doesn't compile. Otherwise, write the exact characters written to the standard output stream.

```
namespace {
  double my_sqrt(double x) { return std::sqrt(x); }
}

double my_sqrt(double x) { return std::sqrt(x); }

int main() {
  std::cout << (my_sqrt(25.0) == ::my_sqrt(25.0));
}
```

Answer: NC ✔

Question **6**

Correct

Marked out of 2.00

What is the output of the following code fragment?

```
namespace A {
  char c{'c'};
  namespace B { char b{'b'}; }
}

int main() {
  std::cout << A::B::b;
}
```

Select one:

- b ✔
- Code outputs nothing
- Code doesn't compile
- c

Question **7**

Correct

Marked out of 2.00

Write **NC** if the following code doesn't compile. Otherwise write the exact characters written to the standard output stream.

```
namespace {
  double my_sqrt(double x) { return std::sqrt(x); }
}

int main() {
  std::cout << (std::sqrt(25.0) == my_sqrt(25.0));
}
```

Answer: 1 ✔

Question **8**

Correct

Marked out of 2.00

Does the following code compile?

```
namespace helpers { int counter{1}; }

namespace helpers { int strength{2}; }

int main() {
  std::cout << helpers::counter << "\n";
  std::cout << helpers::strength << "\n";
  std::cout << helpers::Div2(8) << "\n";
}

namespace helpers {
  int Div2(int value) { return value/2; }
}
```

Select one:

- True
- False ✔

Question **9**

Correct

Marked out of 5.00

Find every statement that cause a compilation error in the following code fragment.

```
namespace Stuff {
  int foo {11};
  int bar {12};
  int baz {13};
}

void f1() {
  int foo {3};
  int x {Stuff::foo};
  int y {Stuff::bar};
}

int foo {20};

int main() {
  using namespace Stuff;

  std::cout << ::foo << "\n";
  std::cout << Stuff::foo << "\n";
  std::cout << foo << "\n";
  std::cout << bar << "\n";
  std::cout << baz << "\n";
  int foo {3};
  int x {Stuff::foo};
  x = foo;
  x = ::foo;
}
```

Select one or more:

- [ ] `int x {Stuff::foo};`
- [ ] `std::cout << ::foo << "\n";`
- [ ] `std::cout << bar << "\n";`
- [ ] `int foo {3};`
- [ ] `std::cout << baz << "\n";`
- [x] `std::cout << foo << "\n";` ✔
- [ ] `x = foo;`
- [ ] `std::cout << Stuff::foo << "\n";`
- [ ] `x = ::foo;`

Question **10**

Correct

Marked out of 4.00

What is the correct way to define a namespace alias `AP` for a previously defined namespace called `AdvancedProgramming`?

Select one:

- (•) `namespace AP = AdvancedProgramming;` ✔
- ( ) `using namespace AP = AdvancedProgramming;`
- ( ) `namespace AdvancedProgramming = AP;`
- ( ) `using AP = AdvancedProgramming;`
- ( ) `alias AP = AdvancedProgramming;`
- ( ) `using AdvancedProgramming = AP;`
- ( ) `using namespace AdvancedProgramming = AP;`

Question **11**

Correct

Marked out of 2.00

Does the following code fragment compile?

```
namespace helpers {
   int counter{1}, strength{2};
}

int Div2(int value) {
  return value/2;
}

int main() {
  std::cout << helpers::counter << "\n";
  using helpers::strength;
  std::cout << strength << "\n";
  std::cout << Div2(8) << "\n";
}
```

Select one:

- (•) True ✔
- ( ) False

Question **12**

Correct

Marked out of 5.00

Write **NC** if the following code doesn't compile. Otherwise, write the exact characters written to the standard output stream.

```
int foo{1}, bar{2};

int main() {
  int foo{10}, bar{foo}, baz{::foo};
  if (10 == bar) {
    int foo{100};
    bar = foo;
    foo = ::bar;
  }
  ::foo = foo;
  ::bar = ::foo;
  std::cout << foo << ',';
  std::cout << bar << ',';
  std::cout << ::foo << ',';
  std::cout << ::bar;
}
```

Answer: 10,100,10,10 ✔

Question **13**

Correct

Marked out of 2.00

Does the following code fragment compile?

```
namespace helpers {
  int counter {1}, strength {2};
}

int Div2(int value) {
  return value / 2;
}

using helpers::strength;

int main() {
  std::cout << helpers::counter << "\n";
  std::cout << strength << "\n";
  std::cout << Div2(8) << "\n";
}
```

Select one:

- (•) True ✔
- ( ) False

Question **14**

Correct

Marked out of 2.00

What is the output of the following code fragment?

```
namespace A {
  char c {'c'};
}

namespace A {
  char b {'b'};
}

int main() {
  std::cout << A::b;
}
```

Select one:

- c
- Code outputs nothing
- b ✔
- Code doesn't compile

Question **15**

Correct

Marked out of 2.00

What is the output of the following code fragment?

```
namespace A {
  char c {'c'};
}

int main() {
  namespace A { char c {'b'}; }
  std::cout << A::c;
}
```

Select one:

- Code outputs nothing
- Code doesn't compile ✔
- b
- c

Question **16**

Correct

Marked out of 5.00

Write **NC** if the following code doesn't compile. Otherwise, write the exact characters written to the standard output stream.

```
using namespace std;

namespace Stuff {
  int foo {11};
  int bar {12};
}

using namespace Stuff;

int foo {21};
int bar {22};

void f1() {
  cout << foo << ',';
  cout << Stuff::foo << ',';
}

int main() {
  f1();
  cout << foo << ',';
  cout << ::foo << ',';
  cout << Stuff::foo << endl;
}
```

Answer: NC ✔

Question **17**

Correct

Marked out of 5.00

Write **NC** if the following code doesn't compile. Otherwise, write the exact characters written to the standard output stream.

```
using namespace std;

namespace Stuff {
  int foo {11};
  int bar {12};
}

int foo {21};
int bar {22};

void f1() {
  cout << foo << ',';
  cout << Stuff::foo << ',';
}

int main() {
  f1();
  cout << foo << ',';
  cout << ::foo << ',';
  cout << Stuff::foo;
}
```

Answer: 21,11,21,21,11 ✔

Question **18**

Correct

Marked out of 2.00

Does the following code compile?

```
namespace helpers {
  int counter{1}, strength{2};
}

int Div2(int value) {
  return value/2;
}

int main() {
  std::cout << helpers::counter << "\n";
  std::cout << strength << "\n";
  std::cout << Div2(8) << "\n";
}
```

Select one:

- True
- False ✔

Question **19**

Correct

Marked out of 4.00

Write **NC** if the following code doesn't compile. Otherwise, write the exact characters written to the standard output stream.

```

namespace DigiPen {
  int Div2(int x) {return x / 2;}
  namespace IntroProg { int Div2(int x) {return x/2;} }
  namespace AdvProg   { int Div2(int x) {return x>>1;} }
}

int main() {
  std::cout << DigiPen::Div2(8) << ",";
  std::cout << DigiPen::IntroProg::Div2(8) << ",";
  std::cout << DigiPen::AdvProg::Div2(8);
}
```

Answer: 4,4,4 ✔

Jump to...

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Lab 4: Interface/Implementation Methodology with Singly-Linked Lists ►