

Programming in C++

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1.1 Error Messages (5 Points)

a)

```
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(11,2): error C2146: syntax error: missing ';' before identifier '
  cout'
```

The error messages ('output' in Visual Studio 2019) seem to look slightly different than described in the exercise sheet. Hence, the row and column number are referenced in parenthesis following the filepath.

b)

```
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(11,10): error C2001: newline in constant
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(12,2): error C2146: syntax error: missing ';' before identifier '
  cin'
```

Here, i would look at the first error first since the next one is following just one line later. Also, since the error message says 'newline in constant', it is likely, that both errors are related.

c)

```
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(11,2): error C2065: 'cout': undeclared identifier
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(12,2): error C2065: 'cin': undeclared identifier
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(13,2): error C2065: 'cout': undeclared identifier
```

Since all errors have the same error code and message, we can assume that the order of fixing does not matter. Either, multiple issues can be resolved by same fix (which is the case here with using the standard library) or not when identifiers have different origins.

d)

The following are not all messages from the output. There were multiple other lines which seemed to extend the second error message by listing all valid data types for the >> operator (left out and denoted by ... instead)

```
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(10,22): error C2734: 'someNumber': 'const' object must be
  initialized if not 'extern'
```

```

1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(12,19): error C2678: binary '>>': no operator found which takes a
    left-hand operand of type 'std::istream' (or there is no acceptable
    conversion)
<...>
1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(12,19): message : while trying to match the argument list '(std::
    istream, const int)'
```

This is likely caused because the compiler does not allow changing the content of a constant, which is why errors related to the corresponding operator are put out.

e) Change `iostream` to `iostream.h`.

```

1>E:\VisualStudio\Programming in C++\1.1_ErrorMessages\1.1_ErrorMessages.
  cpp(4,10): fatal error C1083: Cannot open include file: 'iostream.h':
    No such file or directory
```

This error occurs since the file `iostream` which does not have any file extension. Thus a file named `'iostream.h'` cannot be found.

1.2 Type conversion (7 Points)

```
b = d; i = d;
```

The lines above try to fit the content of a `double` into a `char` and an `int` respectively. Since, a `double` can hold more bytes than either of these data types, there might be a loss of data or information.

```
l = i; d = f; f = s;
```

These lines try to allocate the content of variables `i`, `f` and `s` to other variables. However, this does not work since they do not have a value yet (uninitialized), only their names exist at this point.

1.3 Solving quadratic equations (10 Points)

1.4 Running through an algorithm (10 Points)