

Lab02: Appendix

Compile-Time Error

An error that prevents a compiler from compiling the source file is known as a compile-time error. Compile time errors typically have the following types:

1. Syntax errors

These errors are commonly caused by typos, resulting in code that does not conform to the rules of the Java programming language such as:

- a. Misspelling of a method/variable
- b. Absence of parentheses '(', semi-colon ';', etc.

In case such errors exist, the compiler informs you about how to fix them. Take a look at the following example program.

```
public class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello World!")  
    }  
} This line of code is missing a ;'
```

The output of the compiler may look like the following.

```
HelloWorld.java:3: error: ';' expected  
        System.out.println("Hello World!")  
                           ^  
1 error
```

2. Semantic errors

These errors are caused by the incorrect usage of the Java programming language, such as:

- a. Improper type casting
- b. Using undefined variables

In the case such errors exist, the compiler will inform you of what is expected from you. For example, for the following program.

```
public class HelloWorld {  
    public static void main(String[] args) {  
        s = "Hello World!";  
        System.out.println(s);  
    }  
} The variable s has not been defined.
```

The output of the compiler may look like the following.

```
HelloWorld.java:3: error: cannot find symbol
    s = "Hello World!";
        ^
symbol:  variable s
location: class HelloWorld
HelloWorld.java:4: error: cannot find symbol
    System.out.println(s);
                    ^
symbol:  variable s
location: class HelloWorld
2 errors
```

Translating Java Error Messages

In order to find out the error in your code, you need to read the error message carefully. The *first line* of the error message usually contains enough information that helps you find the error in your code. You can decompose the error message as shown below.

