

CSC 122: Debug a Tune

Debugging

1 Introduction

In this lab you will learn about errors and how to identify them. You will locate and fix errors of three types - compiler, linker, and runtime - introduced into the previously completed PlayATune lab.

2 Objective

To illustrate the effects of Compiler, Linker, and Runtime Errors within an application, and facilitate the use of a debugger.

3 Activity

This section describes the tasks to be completed that will satisfy the given objectives.

3.1 Background Information

This section provides some information that will help you complete or understand the contents of the lab.

Errors can be separated into multiple classifications depending on their source. Compiler Errors are syntactical errors in code. The most common cause of this is a typo. Linker Errors are caused when a file or package referenced in one class cannot be located by the compiler. Runtime Errors occur when there is a logical error in a program. This can be as simple as forgetting to break a loop, resulting in an infinite loop, or as complex as accessing a memory location beyond that allocated to the program.

3.2 Implementation

This section will guide you to complete the lab. You have been provided an Eclipse project named Error Management. Follow the directions outlined below.

To complete this lab successfully you will need to:

- Identify and remove all compiler Errors
- Identify and remove all linker Errors
- Identify and remove all runtime Errors

For each task, you must record the line number, erroneous code fragment, error type, an explanation of why it is in error, and the fixed code fragment. For runtime errors you are required to submit the steps you took to debug the problem.

4 Conclusion

After successful completion of this lab, the student will be able to identify compiler, linker, and runtime errors. The student will also understand and be able to use the debugger.

5 Deliverables

To submit your application, export your Eclipse project as a file system, zip all of the files into an archive and submit them online with the filename `<first_name_initial><last_name>-lab<lab#>.zip`.

1. Android Developers Package Index. Internet: <http://developer.android.com/reference/packages.html>, Jan. 20, 2012 [Jan. 21, 2012].