# Micro Pascal Compiler User Manual

Welcome to the user manual for the Micro Pascal Compiler. This user manual is designed to help you get started as quickly as possible by helping you run the compiler and introducing you to any errors that you might encounter while using the compiler.

To use the micro pascal grammar compiler:

1. Find the folders that hold the AllenScannerCompiler.jar file and the .pas pascal file.
2. Place both files in the same folder.
3. Navigate to the folder containing the .pas and .jar files using the cd command.
4. Enter this command in the terminal and execute it:
   **java -jar allenscannercompiler.jar filename.pas**
   filename.pas is the name of the pascal file that you want to execute.
5. Three files will be generated once you execute this command. A .tree, .table, and .asm. Of those files, the .asm contains MIPS assembly language and can be run using an IDE like QtSpim.

If an error like this appears in the terminal:

Exception in thread "main" java.lang.RuntimeException: No file
     at parser.Parser.error(Parser.java:1063)
     at parser.Parser.<init>(Parser.java:72)
     at compiler.CompilerMain.main(CompilerMain.java:46)

This error means that a file was not entered, was misspelled, or the file was not able to be seen. To fix this error, check to make sure that you entered java -jar AllenScannerCompiler.jar filename.pas and that the filename is spelled correctly. Also check to make sure that in the terminal you have navigated to the place that your pascal file is in, or have correctly copied the path of the file, so that the file can be seen and run.

Encountering an error like this:

Exception in thread "main" java.lang.RuntimeException: Match of PROGRAM found ID instead.
     at parser.Parser.error(Parser.java:1063)
     at parser.Parser.match(Parser.java:1046)
     at parser.Parser.program(Parser.java:106)
     at compiler.CompilerMain.main(CompilerMain.java:49)

This error means that the pascal file passed in contained the wrong syntax and is not the correct pascal grammar. To fix this error, you need to create a pascal program that is from the language described by the micro pascal grammar.

Encountering an error like this:

Exception in thread "main" java.lang.NullPointerException
      at parser.Parser.match(Parser.java:1028)
      at parser.Parser.program(Parser.java:106)
      at compiler.CompilerMain.main(CompilerMain.java:49)

Seeing this error means that an empty micro pascal file or a file of the wrong file extension was entered. To fix this issue, you need to enter a pascal file that contains a pascal program or enter a file with a .pas file extension.