

Pascal Compiler User Manual

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The Pascal Compiler, `pascalc`, is a packaged Java program. As such it should be completely cross platform, as long as you have JRE 1.7+ installed. The program can be run with the Java Virtual Machine from a terminal like so:

```
java -jar pascalc.jar <file.pas>
```

The first parameter should be the filename of the Pascal code you wish to compile. The MIPS assembly code will be generated to the current directory. The generated file will have the file extension `.asm`, and the name of the file will be the program name, i.e. the string following `program`, and preceding `;` on the first line of the Pascal file. Optionally the third command line argument can be `-p`, which will print the syntax tree, which is the internal representation of the Pascal code.

If errors are encountered during the compilation process, an error message will be printed, along with the line number it occurred on. The program will then exit with an error code corresponding to the error encountered. These error codes can be seen as follows:

2: `TOKEN_NOT_AVAILABLE` will occur when something is not matched at the end. For example, if there is no `end.` for the main there will not be a token available.

2: `TOKEN_MISMATCH` will occur when a certain token is expected, but there was another token in its place.

4: `AFTER_PROGRAM` handles the error in which the semicolon after program is not present.

5: `PROGRAM_NOT_FOUND` is the error thrown when the first line does not contain `program <programname>;`.

8: `EXPECTED_EOF` error occurs when there is extra text after the `end.` for the main of the program.

9: `COMPOUND_STMT_SEMICOLON` is thrown when there is a semicolon after the last statement in a compound statement.

10: `VARIABLE_NOT_DEC` occurs when an attempt to use a variable that has not been declared.

11: `ASSIGN_REAL_TO_INT` error is thrown when a real number is attempted to be assigned into an integer variable.

12: `REAL_INT_COMPARISON` is thrown when a real number and an integer are compared.