

Synthesising A Compiler

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Imagine designing and implementing a programming language but not having to write a compiler or interpreter for it. In this talk we will present a system which can be used for the automatic generation of a compiler. The idea for this work comes from the area of program synthesis which aims to take a partially completed program, or a program with 'holes', and complete the program.

In order to demonstrate this we have designed two simple languages. One which contains various bit of syntactic 'sugar' and one which does not. From the specifications of these two languages, and the use of various simple input programs, we are able to automatically generate a compiler from the higher level language to the lower level language.