

In the present work I study ways of checking common beginner mistakes in C language programs using static analyses of source code and generating run-time checks. Part of this work consists of implementation of several simple static analyses and run-time check generators focused on detecting beginner mistakes and locating them in the source code as accurately as possible. I have chosen the LLVM Compiler Infrastructure and Clang frontend as a basis for the implementation. In this text, you will find a brief programmer's introduction to the LLVM Compiler Infrastructure and a description of newly implemented tools. The main goal of this work is to enable using the C programming language for basic computer programming course.