CodeMate

An automate tool for programming
and templating

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1 Introduction

CodeMate is an automate tool for processing and building project (currently only in Fortran).

1.1 Why CodeMate?

There are many programming languages for helping people to solve problems. (Two types, one is compiling languages and the other is interpreted languages)

Fortran is mainly used in numerical computation due to its high efficiency.

It is tedious and error-prone to manage the Makefile of a project. Sometimes, user just wants to write a small and quick project for proving concept, but writing the dependencies among the codes and linking with external libraries is such a headache.

CodeMate is crafted to address these problems. Using CodeMate, user will be liberated from writing Makefile or other duplicate stuffs. CodeMate provides a command for doing such works for users. No file editing is needed for basic use.

Compared with existing IDEs, CodeMate is lightweight and has only one command `codemate`. So it can be run on the remote server with only command line interface. In addition, CodeMate will do more thing automatically, such as linking external libraries, and do template processing.

1.2 CodeMate Capabilities

CodeMate can scan a Fortran project to extracting internal and external dependencies, and create a Makefile for it. If there are any template instance and CodeMate knows about the template definition, the template instance will be processed to generate a full code. After these, user can invoke `make` to build the project.

1.3 CodeMate Workflow

CodeMate tries to minimize the workflow of building a project, so it does. Only one operator (or subcommand) is needed, that is `scan`:

```
$ codemate scan <project root>/<single code>
```

When a directory is provided, CodeMate will consider it as the root of the project, and any Fortran code (with suffix as .F90 or .f90) will be processed. When only a single code is provided, the code will be parsed and print the rewrited content onto the console.