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1. flang编译及安装

见笔记《ubuntu16.04下编译flang》。

2. flang的测试模块说明

测试模块工程结构说明

flang的测试模块代码，在flang源码目录下的test文件夹中，根据《ubuntu16.04下编译flang》笔记，对flang进行编译后，会在flang源码目录下，生成build目录，并在build下生成Makefile文件。

启动运行所有测试用例时，将（暂时）在build目录下进行。

test目录结构说明

```

1 ** Part of the LLVM Project, under the Apache License v2.0 with LLVM Exceptions.
2 ** See https://llvm.org/LICENSE.txt for license information.
3 ** SPDX-License-Identifier: Apache-2.0 WITH LLVM-exception
4
5 *   Test input line format.  This includes comments, continuation lines,
6 *   long lines, tabs in lines, and the label field.
7
8       Oprogram
9       \p
10
11 c       next line consists of >100 blanks:
12
13       integer rslts(6), e x p e c t(6
14 &       )
15
16 C       following comment lines have varying numbers of blanks after "c":
17 c
18 c
19 c
20 c

```

```

src/ab00.f
1 #
2 # Part of the LLVM Project, under the Apache License v2.0 with LLVM Exceptions.
3 # See https://llvm.org/LICENSE.txt for license information.
4 # SPDX-License-Identifier: Apache-2.0 WITH LLVM-exception
5
6 # Shared lit script for each tests. Run bash commands that run tests with make.
7
8 # RUN: KEEP_FILES=%keep FLAGS=%flags TEST_SRC=%s MAKE_FILE_DIR=%S/.. bash %S/runmake | tee %t
9 # RUN: cat %t | FileCheck %S/runmake

```

```

lit/ab00.sh
1 #
2 # Part of the LLVM Project, under the Apache License v2.0 with LLVM Exceptions.
3 # See https://llvm.org/LICENSE.txt for license information.
4 # SPDX-License-Identifier: Apache-2.0 WITH LLVM-exception
5 #
6
7 ##### Make rule for test ab00 #####
8
9
10 ab00: run
11
12
13 build: $(SRC)/ab00.f
14         -$(RM) ab00.$(EXESUFFIX) core *.d *.mod FOR*.DAT FTN* ftn* fort.*
15         @echo ----- building test $@
16         -$(CC) -c $(CFLAGS) $(SRC)/check.c -o check.$(OBJX)
17         -$(FC) -c $(FFLAGS) $(LDFLAGS) $(SRC)/ab00.f -o ab00.$(OBJX)
18         -$(FC) $(FFLAGS) $(LDFLAGS) ab00.$(OBJX) check.$(OBJX) $(LIBS) -o ab00.$(EXESUFFIX)
19

```

```

inc/ab00.mk

```

1. test/inc

编写.mk文件。

定义测试用例的**构建**build、**运行**run、**验证**verify等执行规则。

2. test/lit

编写.sh文件。

定义测试用例运行时的bash命令。

3. test/src

编写Fortran测试用例源码文件，如.f，或.f90等。

3.1 语法说明

基于测试目标功能或者特性，编写测试用例。

3. flang测试quick start

进入源码目录下的build文件夹，执行 'make check-all' 即可。

也可使用llvm-lit测试工具（该方法暂时无法运行，并未定位原因）。

3.1 问题说明

3.1.1 llvm-lit找不到问题

```
root@localhost:/home/flang-env/flang/build# make check-all
Running all regression tests
/usr/bin/python2.7: can't open file '/home/flang-env/flang/build/bin/llvm-lit': [Errno 2] No such file or directory
CMakeFiles/check-all.dir/build.make:57: recipe for target 'CMakeFiles/check-all' failed
make[3]: *** [CMakeFiles/check-all] Error 2
CMakeFiles/Makefile2:99: recipe for target 'CMakeFiles/check-all.dir/all' failed
make[2]: *** [CMakeFiles/check-all.dir/all] Error 2
CMakeFiles/Makefile2:106: recipe for target 'CMakeFiles/check-all.dir/rule' failed
make[1]: *** [CMakeFiles/check-all.dir/rule] Error 2
Makefile:175: recipe for target 'check-all' failed
make: *** [check-all] Error 2
```

将 llvm-release_70/build/bin/llvm-lit 文件，手动拷贝到 flang/build/bin 目录下，重新输入命令
make check-all 即可。