1^{st} NASA LRC Fortran Tutorial

Introduction and Setup

Carlos Cruz
Jules Kouatchou
Bruce Van Aartsen

NASA GSFC Code 606 (ASTG)
Greenbelt, Maryland 20771

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Who we are?

- Carlos Cruz (Computational Scientist)
- Jules Kouatchou (Computational Scientist)
- Bruce Van Aartsen (Senior Software Engineer)

We are members of the Advanced Software Technology Group (ASTG) Code 606, NASA GSFC.

Agenda

Day 1

- Introduction to Fortran
- Variables and data types
- Conditionals and loops
- Array concepts
- Subroutines and functions
- Modules and interfaces
- File IO

Day 2

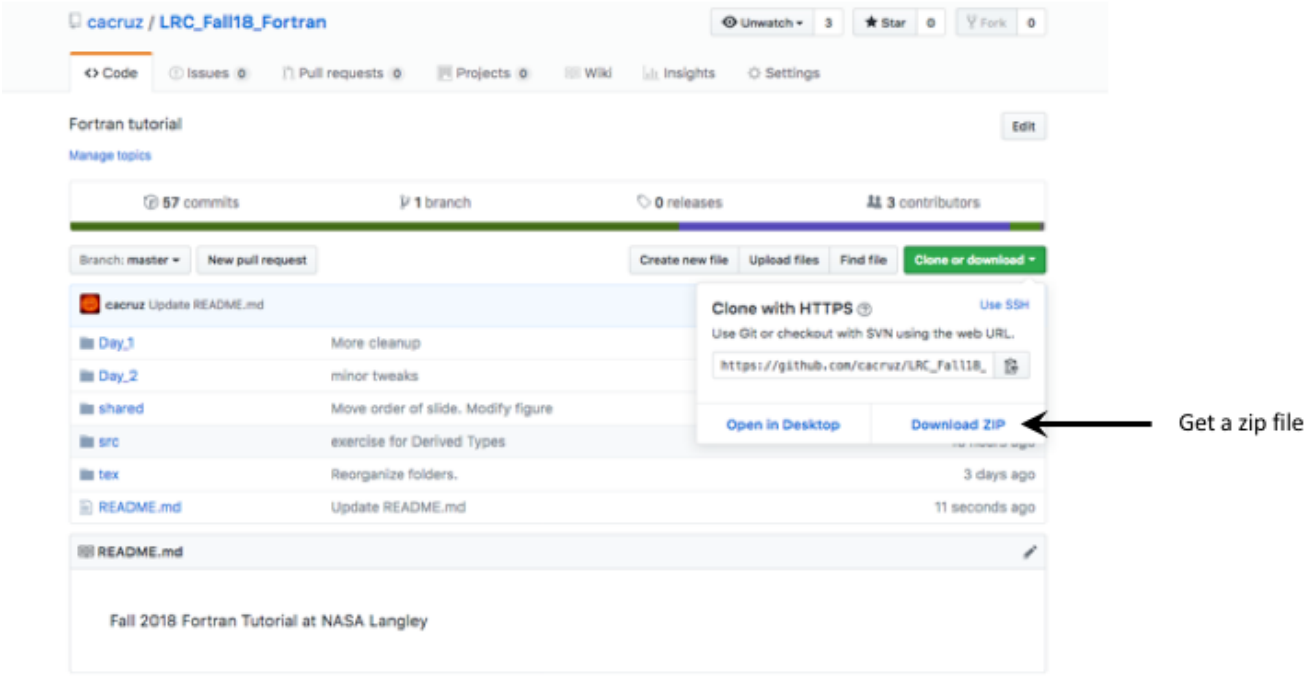
- Derived types and pointers
- Introduction to OOP
- IO Enhancements
- Inheritance
- Polymorphism
- Miscellaneous items
- Interoperability with C

Introduction to Fortran 90-95
Introduction to Fortran 2003

Get Lecture Materials from Github

Open a terminal (Linux/Mac) or command prompt (Windows) and use Git:
git clone `https://github.com/cacruz/LRC_Fall18_Fortran.git`

If Git is not available or Git is not working then, in your browser open `https://github.com/cacruz/LRC_Fall18_Fortran.git`, and download the zip file.



Log in to Amazon EC2

Open a terminal (Linux/Mac) or command prompt (Windows) and go into the LRC_Fall18_Fortran directory/amazon (what you just downloaded):

```
cd LRC_Fall18_Fortran/amazon
chmod 400 fortranlrc.pem
ssh -i "fortranlrc.pem" <userid>@ec2-18-224-57-190.us-east-2.compute.amazonaws.com

substitute <userid> for your assigned userid
```

If your ssh command is successful then get the Fortran code in your Amazon account:

```
$ git clone https://github.com/cacruz/LRC_Fall18_Fortran.git
$ cd LRC_Fall18_Fortran/src
$ ls
01_Introduction
02_Data_types
03_Control_constructs
04_Array_concepts
etc...
```

If possible, leave terminal -with ssh connection- open for the rest of the day.