

1st NASA LRC Fortran Tutorial

Introduction and Setup

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Who we are?

- Carlos Cruz (Computational Scientist)
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- 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.

cacruz / LRC_Fall18_Fortran

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Fortran tutorial

Manage topics

57 commits 1 branch 0 releases 3 contributors

Branch: master New pull request

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Use SSH

Clone with HTTPS

Use Git or checkout with SVN using the web URL.

https://github.com/cacruz/LRC_Fall18_Fortran.git

Open in Desktop Download ZIP

Get a zip file

caacruz Update README.md

Day_1 More cleanup

Day_2 minor tweaks

shared Move order of slide. Modify figure

src exercise for Derived Types

tex Reorganize folders.

README.md Update README.md

README.md

Fall 2018 Fortran Tutorial at NASA Langley



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" <student>@ec2-18-217-60-67.us-east-2.compute.amazonaws.com
```

substitute <student> 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.

