Introduction to Data Analysis Using Python and Jupyter

Quote

Objectives

What can you expect from this session?

How are we planning to do this?

Key Ideas

Three Key ideas while Using Computational Resources for Data Analysis

Resources

Thank You

Introduction to Data Analysis Using Python and Jupyter

ParthaE

Research Workshop@CLIx, TISS, 2019

Outline

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2. Objectives
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"One of the important aspects of creative problem solving is being able to quickly test different solutions."

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What can you expect form this session?

- Get a headstart on using Jupyter/Python for data analysis
- Understand key ideas in using software tools for research based on data

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What can you expect form this session?

- Get a headstart on using Jupyter/Python for data analysis
- Understand key ideas in using software tools for research based on data
- Be able to do most common data manupulations using python

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How are we planning to do this?

- A quick introduction to key ideas before we jump into hands on session with jupyter

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How are we planning to do this?

- A quick introduction to key ideas before we jump into hands on session with jupyter
- Then we will do a small real world project touching upon different features of Python for data manipulation

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Four key ideas while Using Computational Resources

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Four key ideas while Using Computational Resources

- Break your problem into smaller chunks, solve each one of these and then glue them together
  - remember when you are writing code you are building a computational system
  - this principle holds for computational systems at all levels of complexity

Four key ideas while Using Computational Resources

- Break your problem into smaller chunks, solve each one of these and then glue them together
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- Make your analysis reproducible with proper documentation
  - Our analysis is for someone else to read and understand
  - Jpyter project itself started based on this priciple for scientific community

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- Always try to append/extend data than reducing it
  - this comes from the functional programming paradigm, which has become relavant for data analysis
  - when manipulating a data variable, dont change the existing ones but create a new data variable
  - Say, you are combining two data sets, try to extend one with another than to reduce, this way you will preserved two original data sets

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Resources

- Jupyter Installation - *Anaconda*
- Jupyter related *resources*
- *Foundations of Data Science - for all backgrounds*
- Course Resources of *Data 8*

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"In God we trust, all others bring data."

William Edwards Deming (1900 - 1993).