Python Programming Workshop for Business, Finance and Economics

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College of Business and Economics - Qatar University

Spring 2024

Dates: February 19, 21, 26 - Location: H08-D113

Overview

This three-day workshop is designed to introduce graduate students at the College of Business and Economics to Python programming with a focus on applications in business, finance and economics. The workshop will equip students with practical skills in Python for data analysis, financial modeling, and econometrics. The objective is to enhance students' analytical capabilities and give them an edge when pursuing a professional or an academic career in their respective fields.

Python is the most popular programming languages in the world and it gained recently a wider audience in the finance industry through its ease of use and the availability of high quality community-developed solutions for Big Data and Machine Learning.

Learning Outcomes

By the end of this workshop, participants will be able to:

- Understand the basics of Python programming.

- Apply Python in solving finance and business-related problems.

- Perform data analysis using Pandas and visualize data with Matplotlib.

- Implement basic econometric models using Statsmodels.

Prerequisites

- Previous knowledge of programming is not required. We will go through the basic concepts in the first day upon which we build the rest of the workshop.

- Python installation guide, the lecture materials and additional resources will be publicly available on this link: `https://github.com/maitlahcen/qu_cbe_python_workshop_spring24`.

- This is a practical hands-on workshop. Students must bring their own laptops with Python installed following the installation guide.

Schedule

- **Day 1: Python fundamentals**
  Monday, February 19, 4pm - 6pm, Room H08-D113

  – Session 1: Overview of the Python programming language; Introduction to Jupyter notebooks;

  – Session 2: Core Python (data types, variables, basic operations, containers, input-output, control flow, functions).

- **Day 2: Main scientific libraries**
  Wednesday, February 21, 4pm - 6pm, Room H08-D113

  – Session 1: Introduction to Numpy; Data visualization with Matplotlib.

  – Session 2: Basics of root solving and optimization in Scipy.

- **Day 3: Data science with Pandas and Statsmodels**
  Monday, February 26, 4pm - 6pm, Room H08-D113

  – Session 1: Introduction to data analysis with Pandas.

  – Session 2: Introduction to econometrics with Statsmodels.

Instructor

Dr. Mohammed Ait Lahcen is an Assistant Professor of Economics at the Department of Finance and Economics of Qatar University and a Research Fellow at the Economic Theory Group of the University of Basel. Dr. Ait Lahcen holds a PhD in Economics from the University of Basel and a Master of Science in Economics from the University of Lausanne. His research interests lie in the field of macroeconomics and monetary economics. Dr. Ait Lahcen previously taught introductory Python for economics to advanced undergraduate students at the University of Basel. He has also an extensive experience in using Python for economic modeling and numerical analysis.