

Carnegie Mellon University

School of Computer Science

Executive Education

Overview

Before proceeding, we strongly encourage you to complete the self-assessment exercises covering knowledge and skills related to the program content of the course. The contents of this .zip file are described in detail on the following page.

These self-assessments are designed to help you evaluate whether you meet the prerequisite level of both **mathematics** and **programming** skills.

Passing these exercises (*80% correct or higher*) will indicate your readiness for the rigorous program material, but will not guarantee success. **Should you not pass these self-assessments, we recommend you strengthen gaps and weaknesses in your core knowledge and programming skills until you achieve proficiency before program participation.**

Please see additional help and instructions below. You will need to run an *.ipynb* file to complete this self-assessment. The links below provide information about installation and use of a variety of suggested tools for running this type of file. **You may use your preference of tool(s) for this self-assessment.**

Directory (.zip) Contents:

- *README* (this doc)
- *Mathematics* folder
 - *SA_Mathematics_QUESTIONS.pdf*
 - *SA_Mathematics_ANSWER_KEY.pdf*
- *Python* folder
 - *Notebook.ipynb*
 - *Notebook.pdf*
 - *data* folder
 - *people.txt*

File descriptions:

SA_Mathematics_QUESTIONS.pdf

Contains the mathematics self-assessment questions with no answers.

SA_Mathematics_ANSWER_KEY.pdf

Contains the original mathematics self-assessment questions with provided answers for each question. You may use this document to evaluate your results.

Notebook.ipynb

This is the interactive Python self-assessment. You will run this file with an appropriate tool. Suggestions are provided below.

Notebook.pdf

Contains the Python self-assessment with answers for each question. You may use this document to evaluate your results.

people.txt

Data file for use with Notebook.ipynb

What is a Jupyter Notebook?

"The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more."

[Project Jupyter](#)

How do I run a Jupyter Notebook?

"JupyterLab is a web-based interactive development environment for Jupyter notebooks, code, and data. JupyterLab is flexible: configure and arrange the user interface to support a wide range of workflows in data science, scientific computing, and machine learning. JupyterLab is extensible and modular: write plugins that add new components and integrate with existing ones."

[Project Jupyter](#)

What is Anaconda?

"...The open-source Individual Edition (Distribution) is the easiest way to perform Python/R data science and machine learning on a single machine. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries."

[Anaconda](#)

What is Google CoLab?

"Colaboratory is a service provided by Google to take a Jupyter Notebook (a standard format of a .ipynb file) and let users edit/run the code in the notebook for free!"

[Google CoLab](#)