

**ARTIFICAL INTELLIGENCE LAB**

**Lab 02**

**SUBMITTED** **BY:** Raja Danish Ali

**SUBMITTED TO:** Engr. Zia-Ur-Rehman

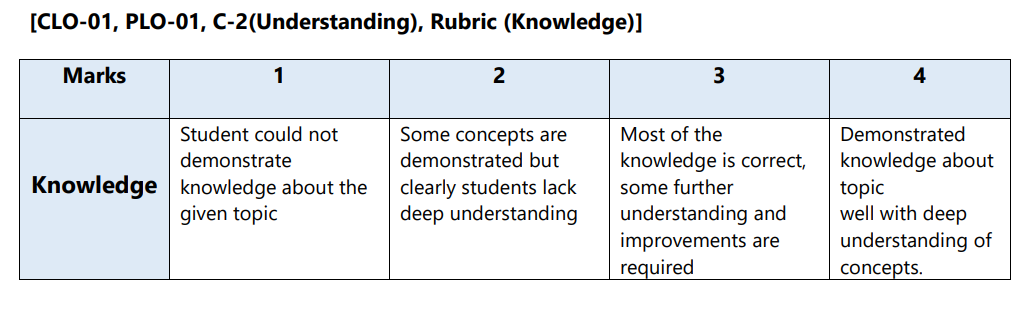
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**SEMESTER:** BSCE-VII

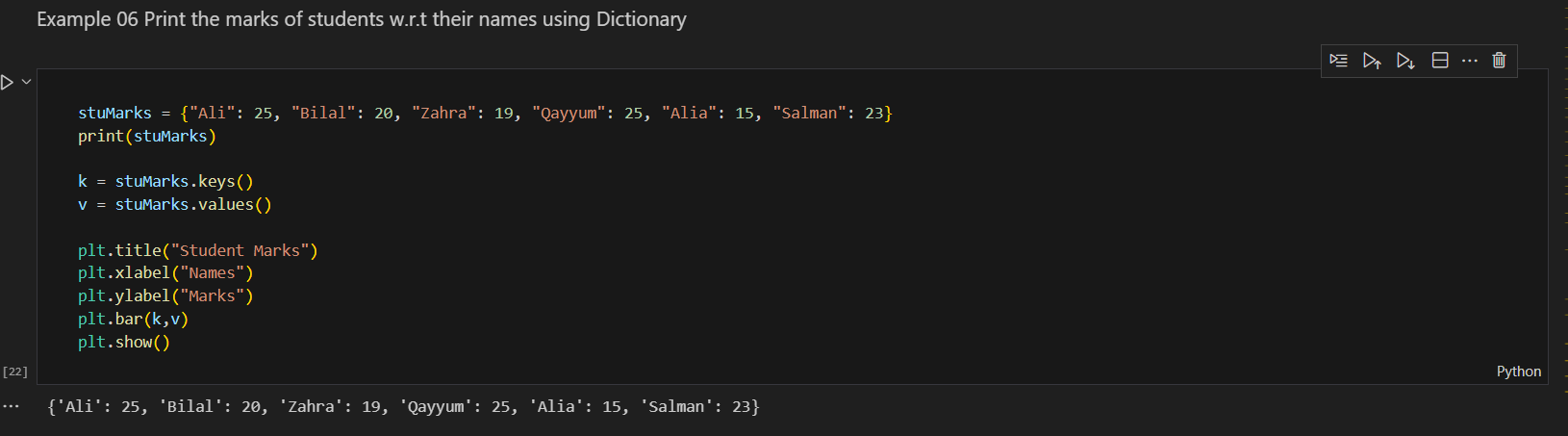
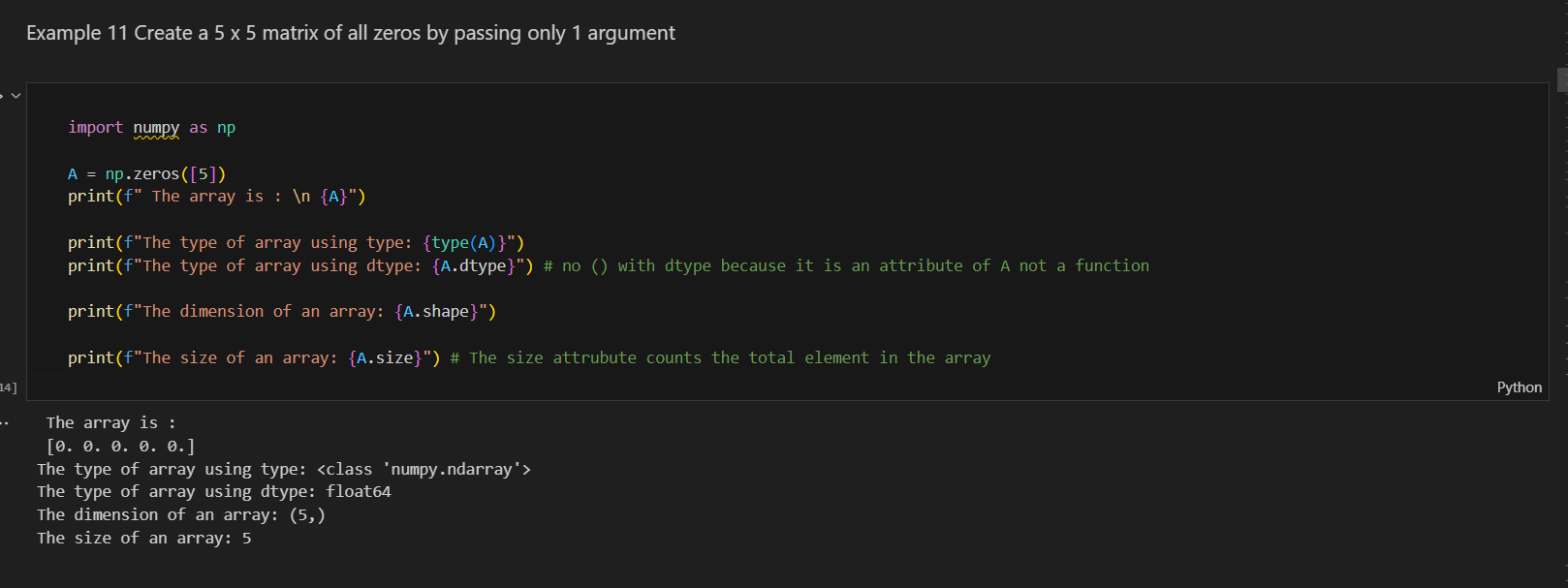
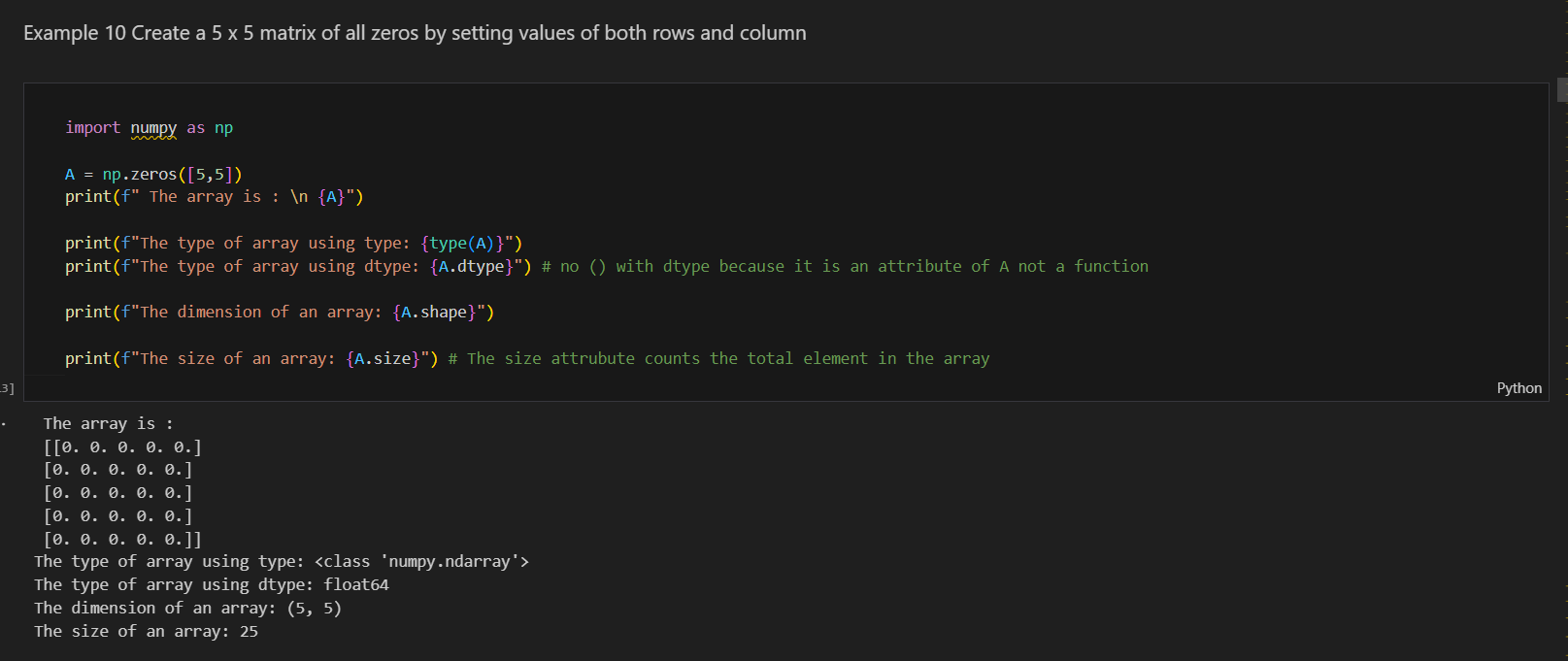
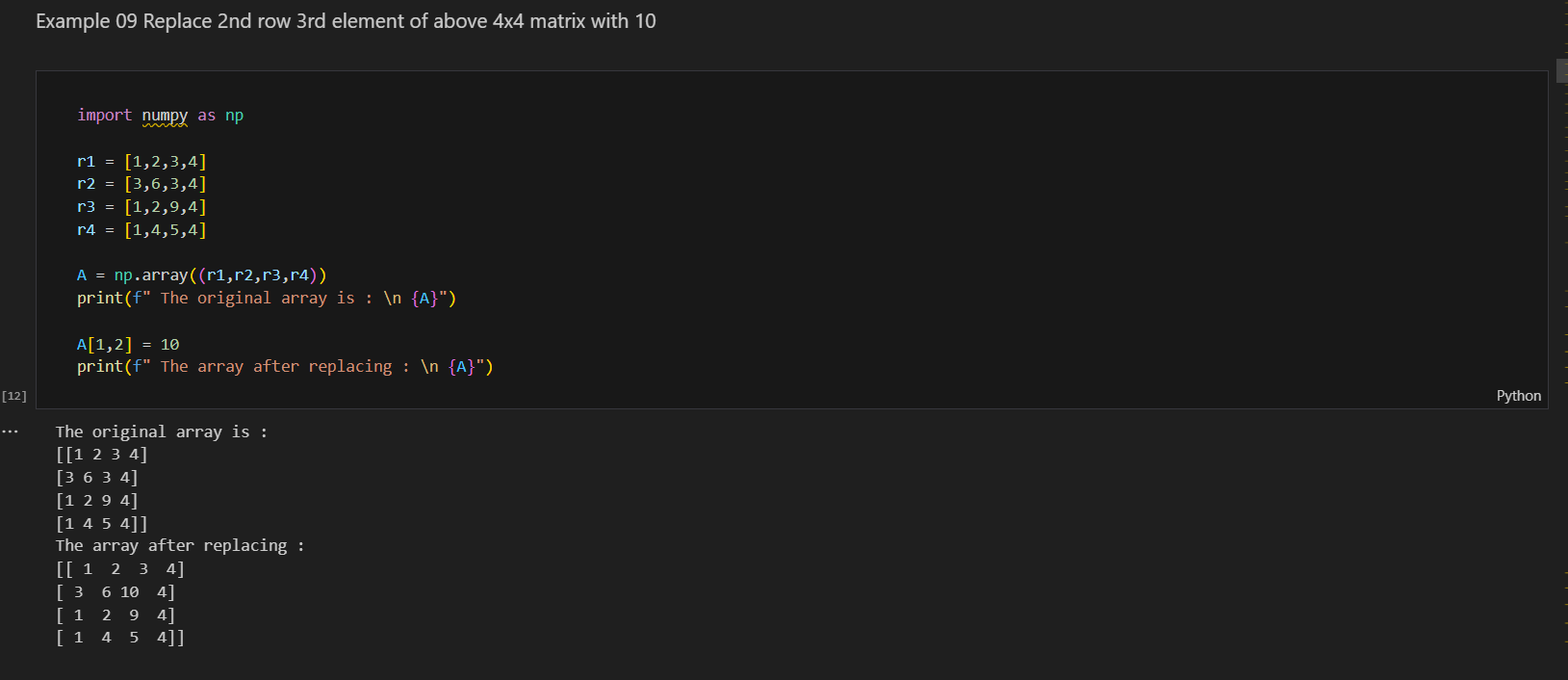
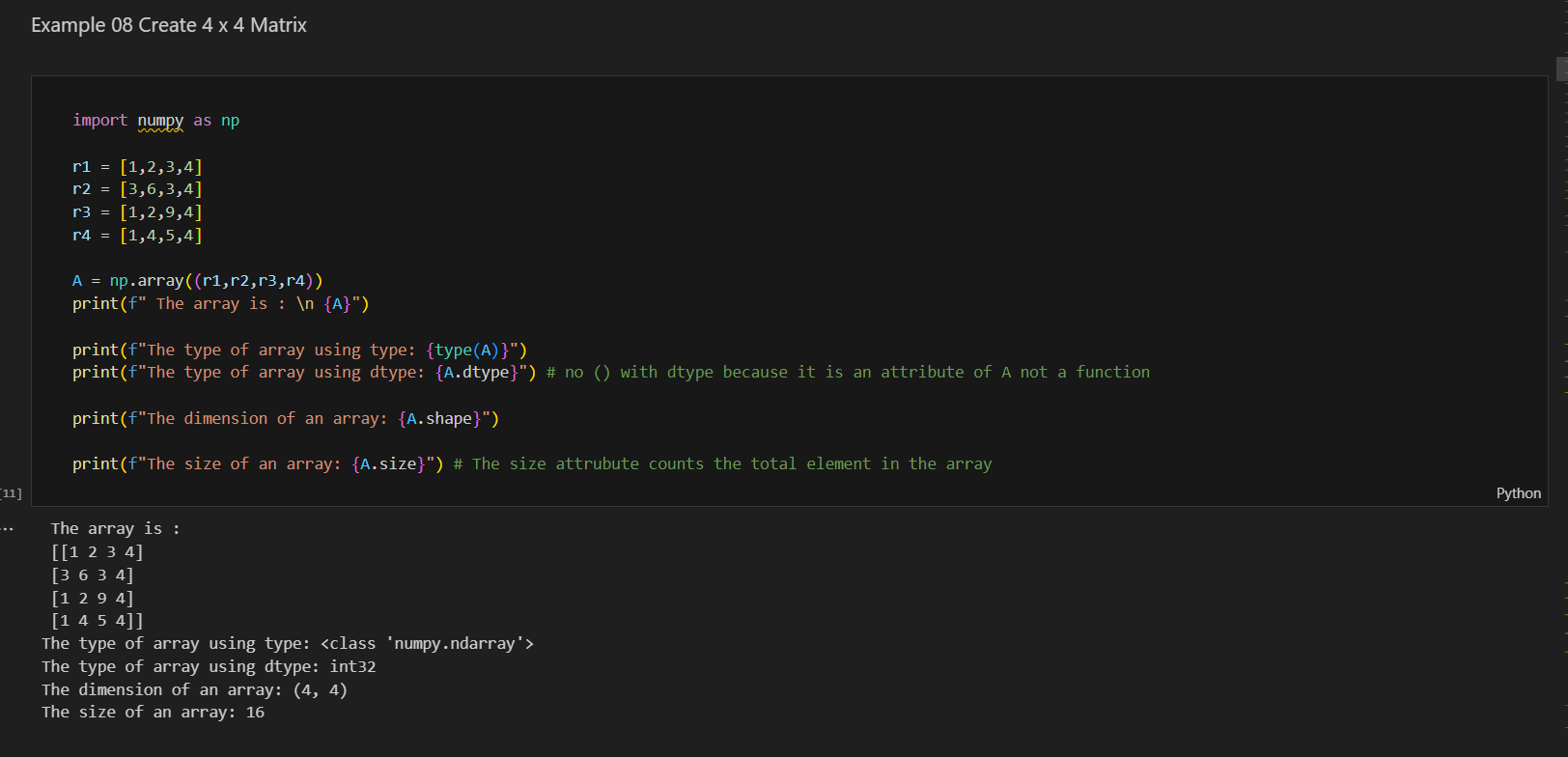
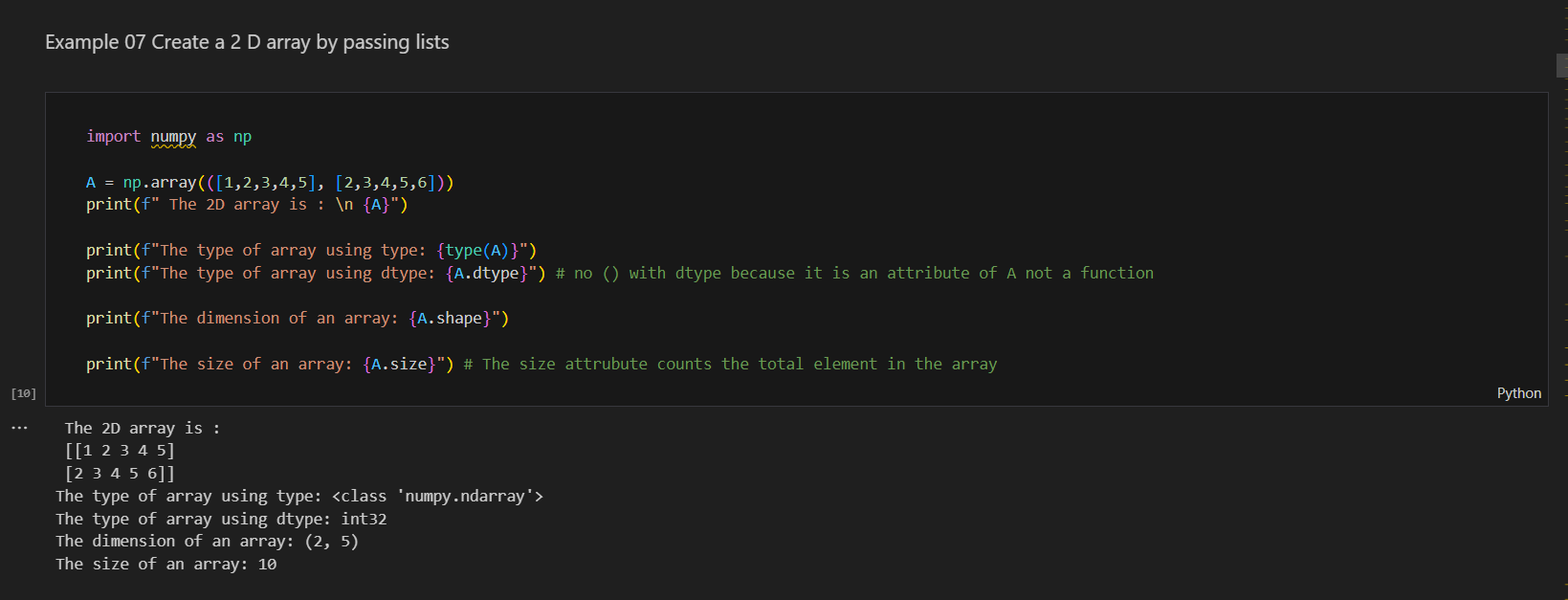
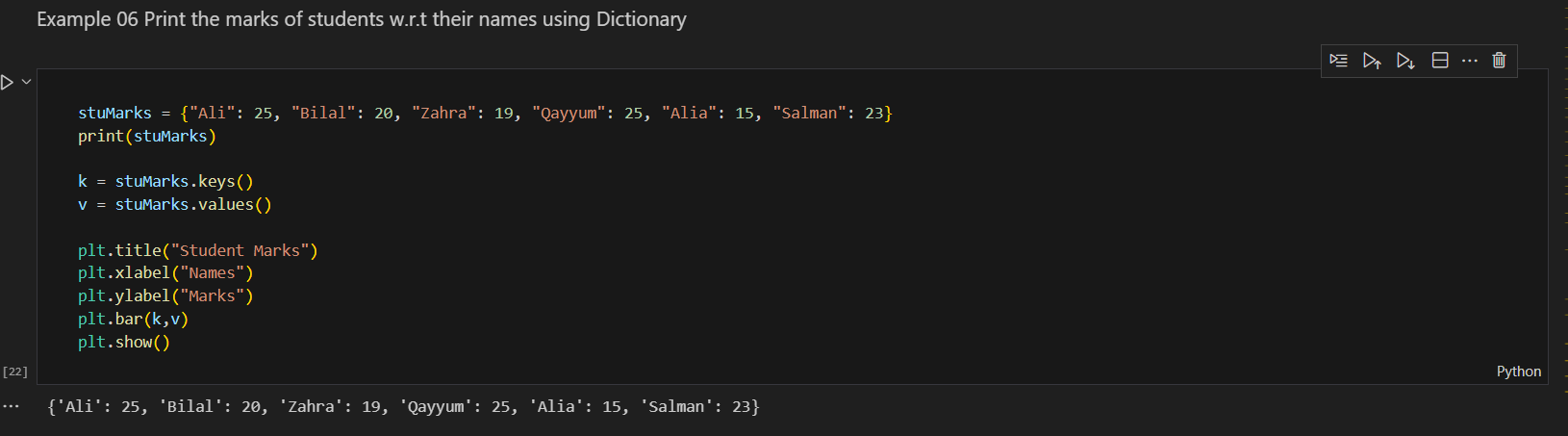
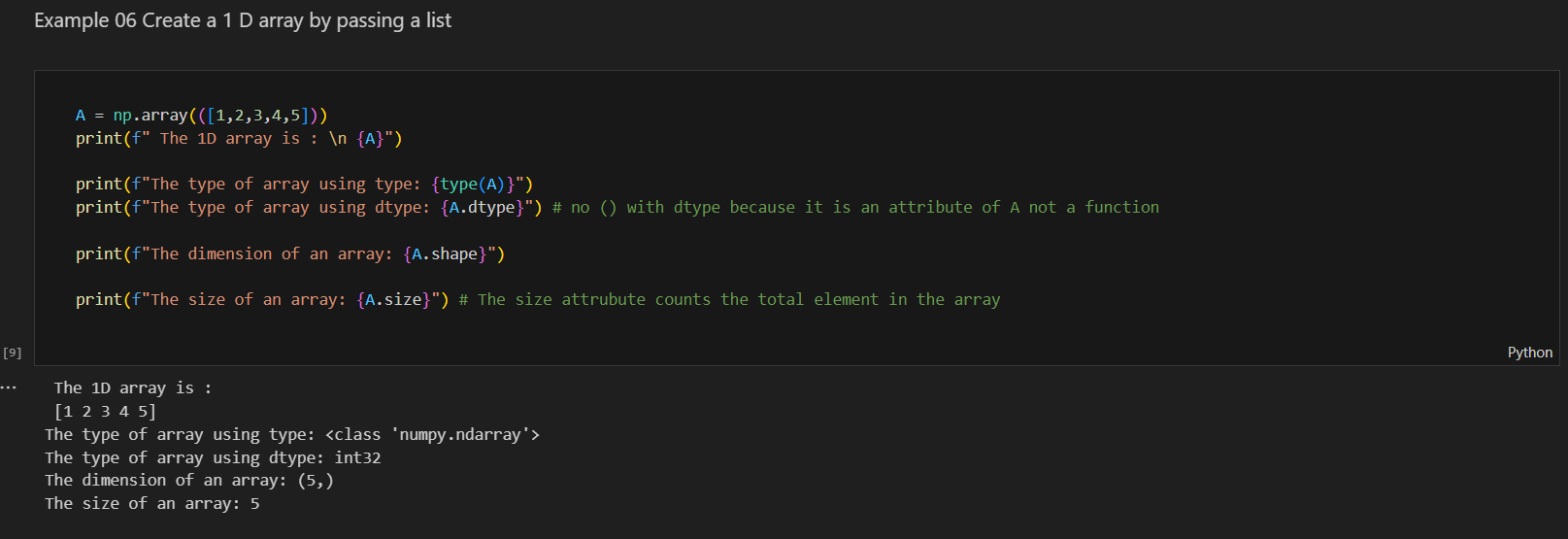
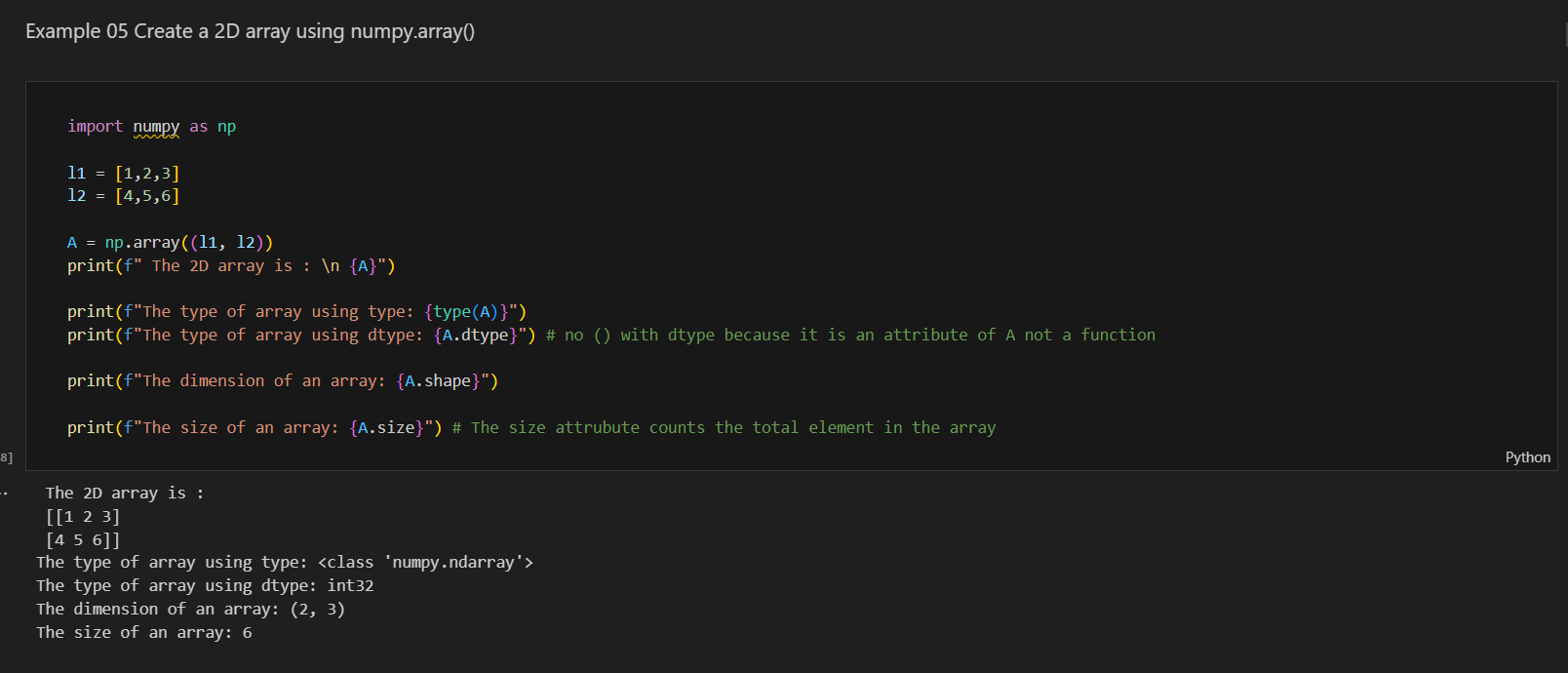
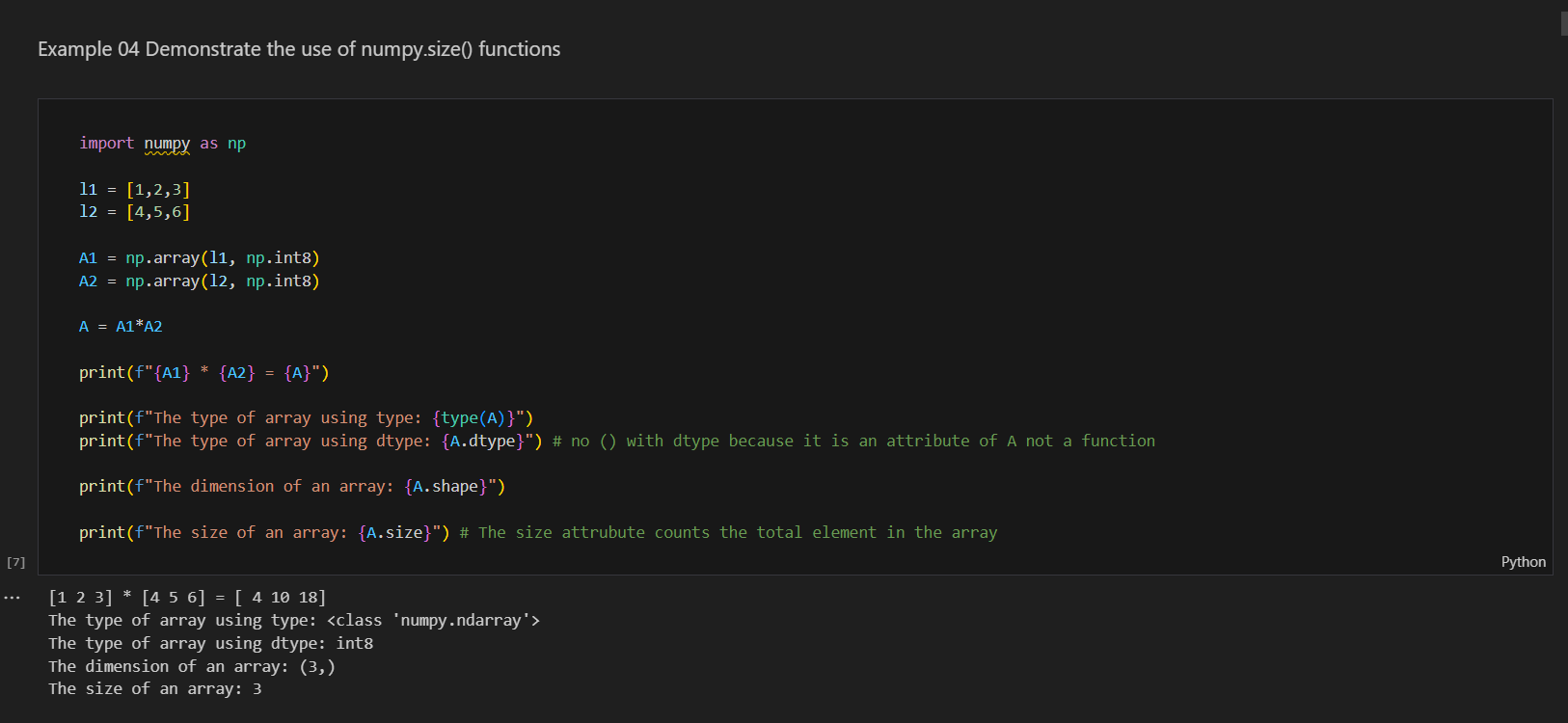
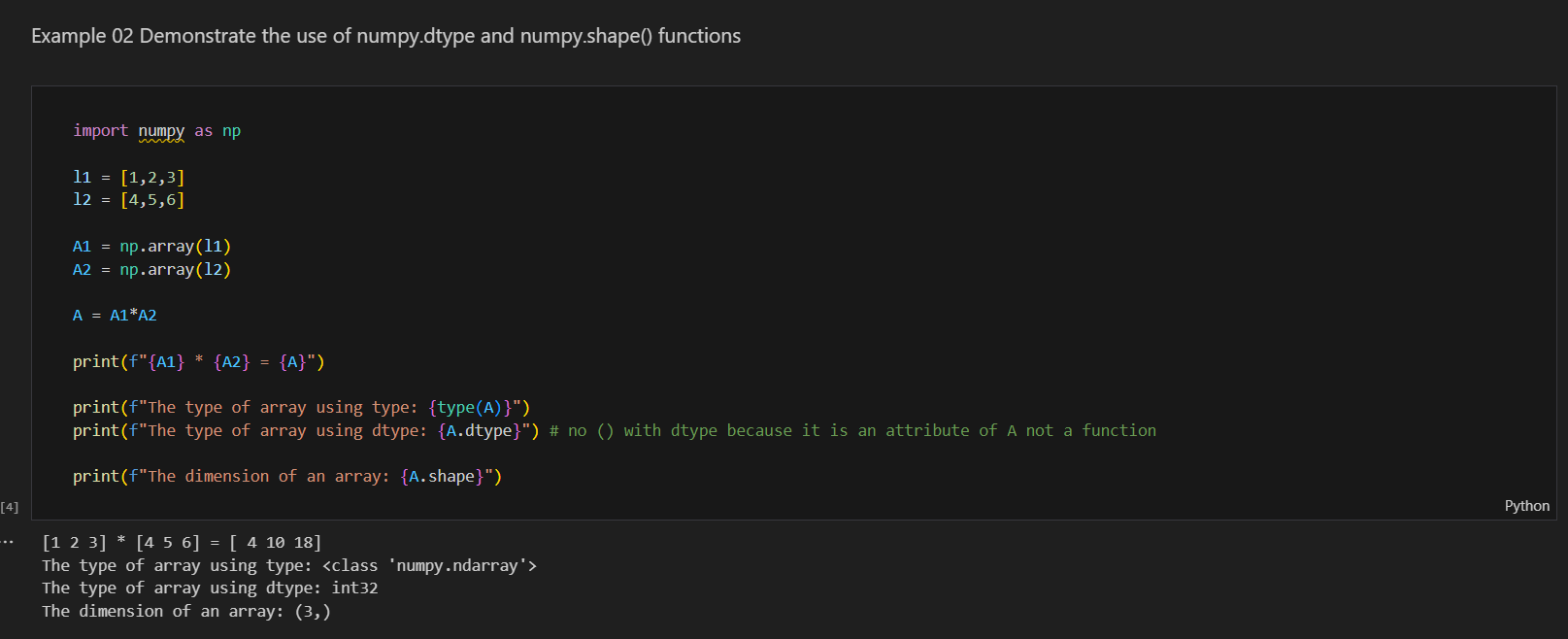
**DEPARTMENT OF COMPUTER ENGINEERING**

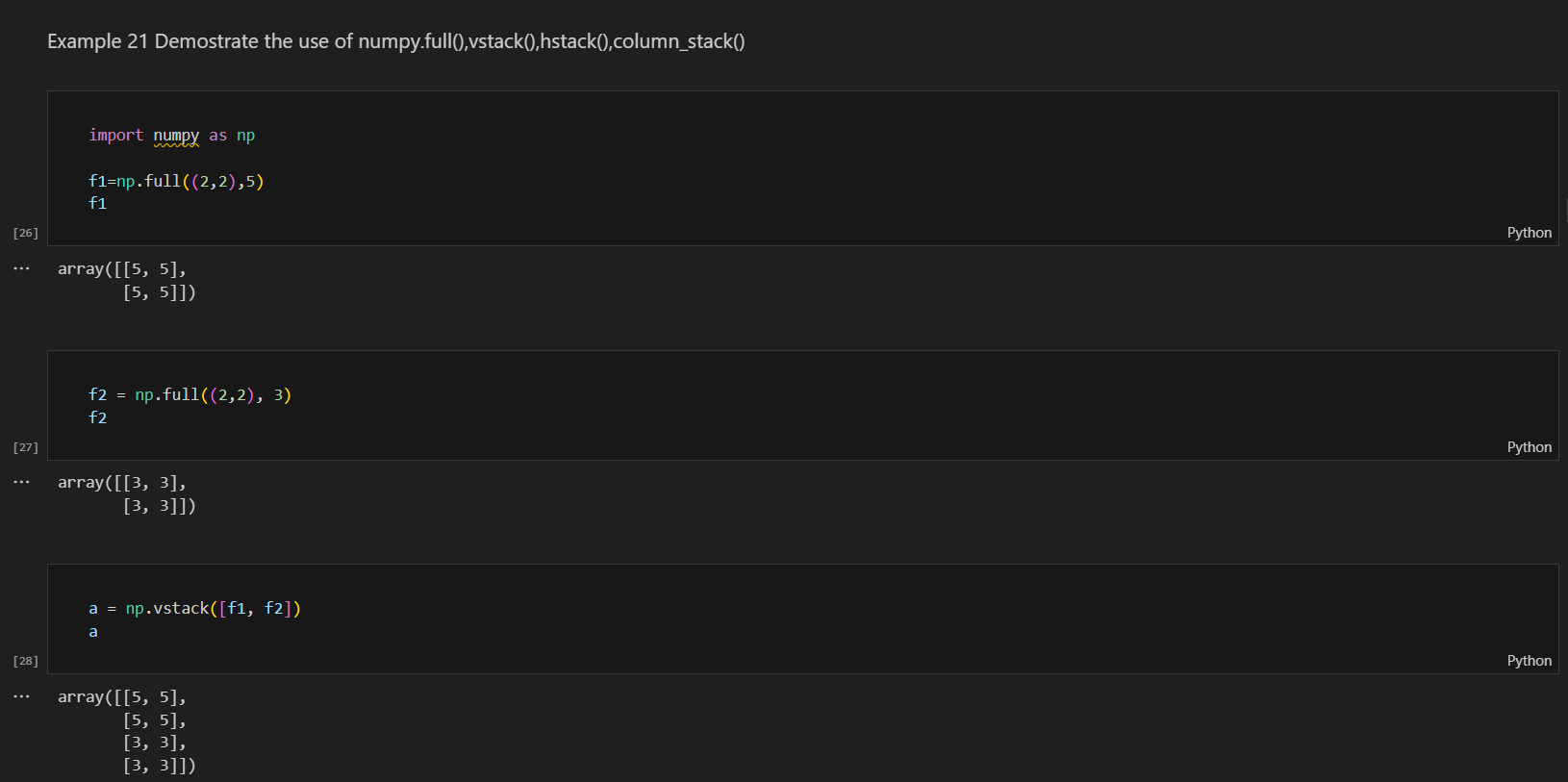
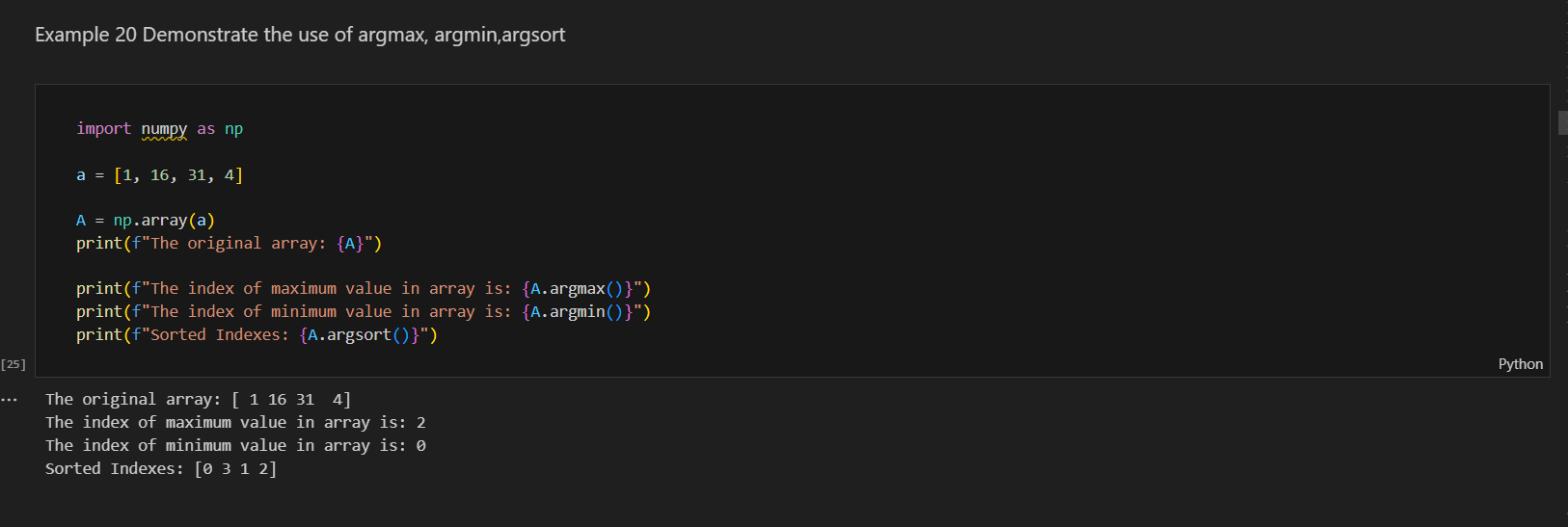
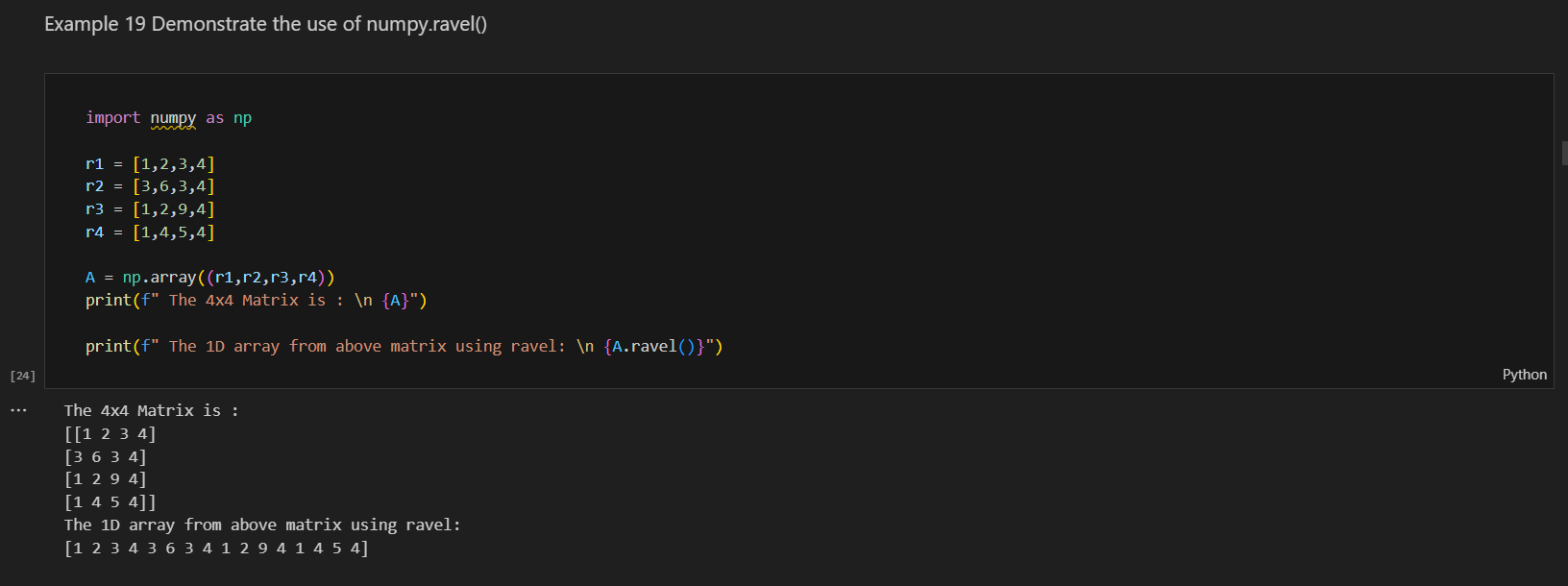
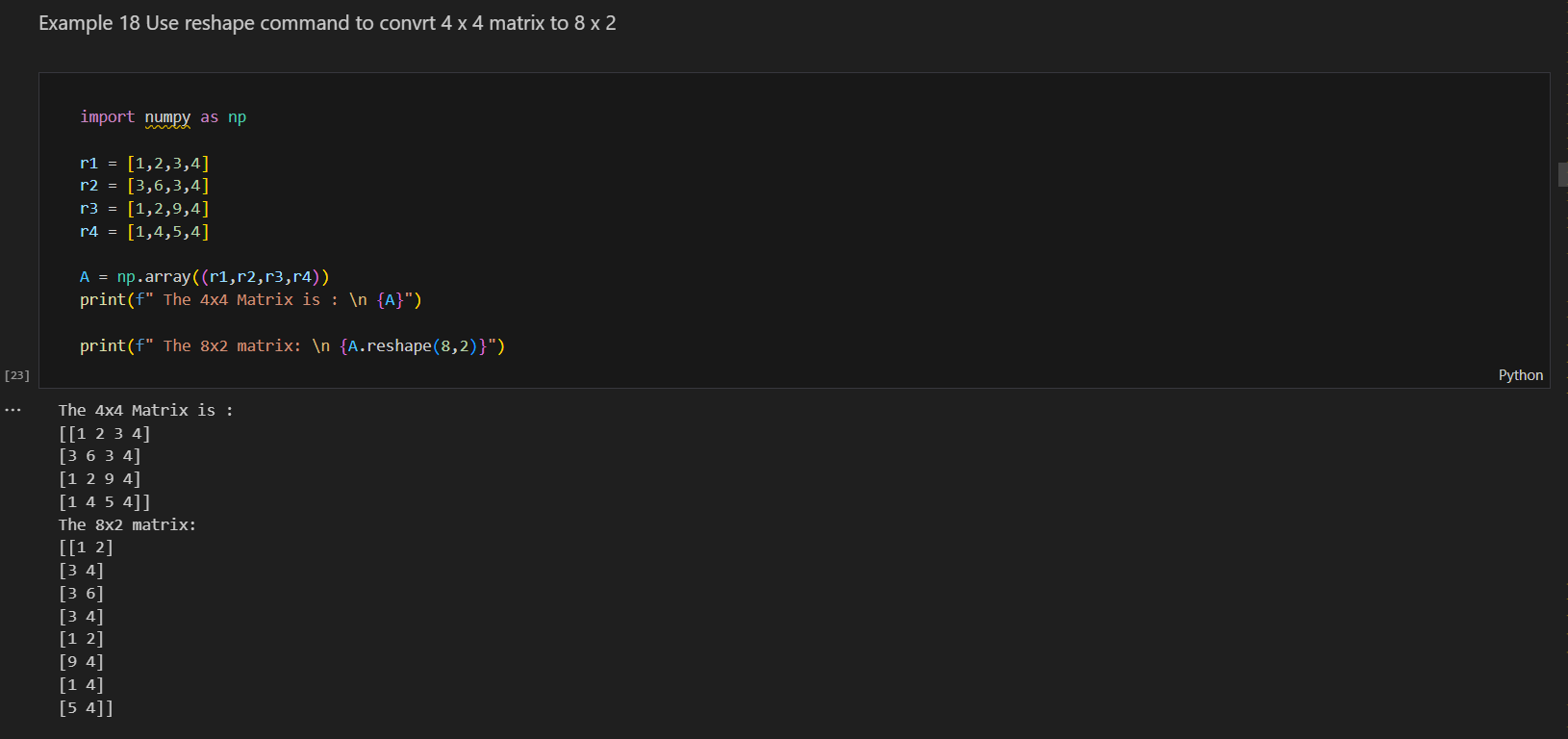
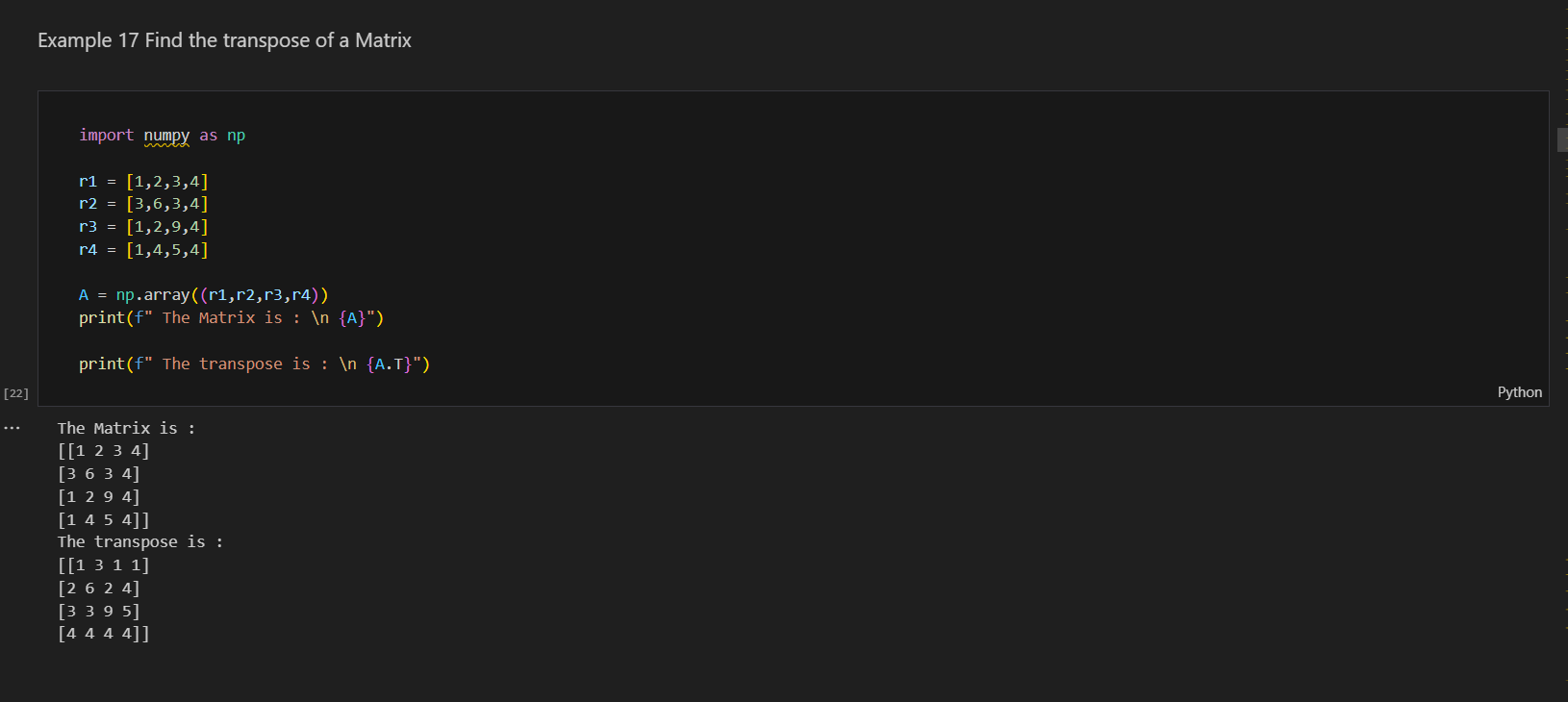
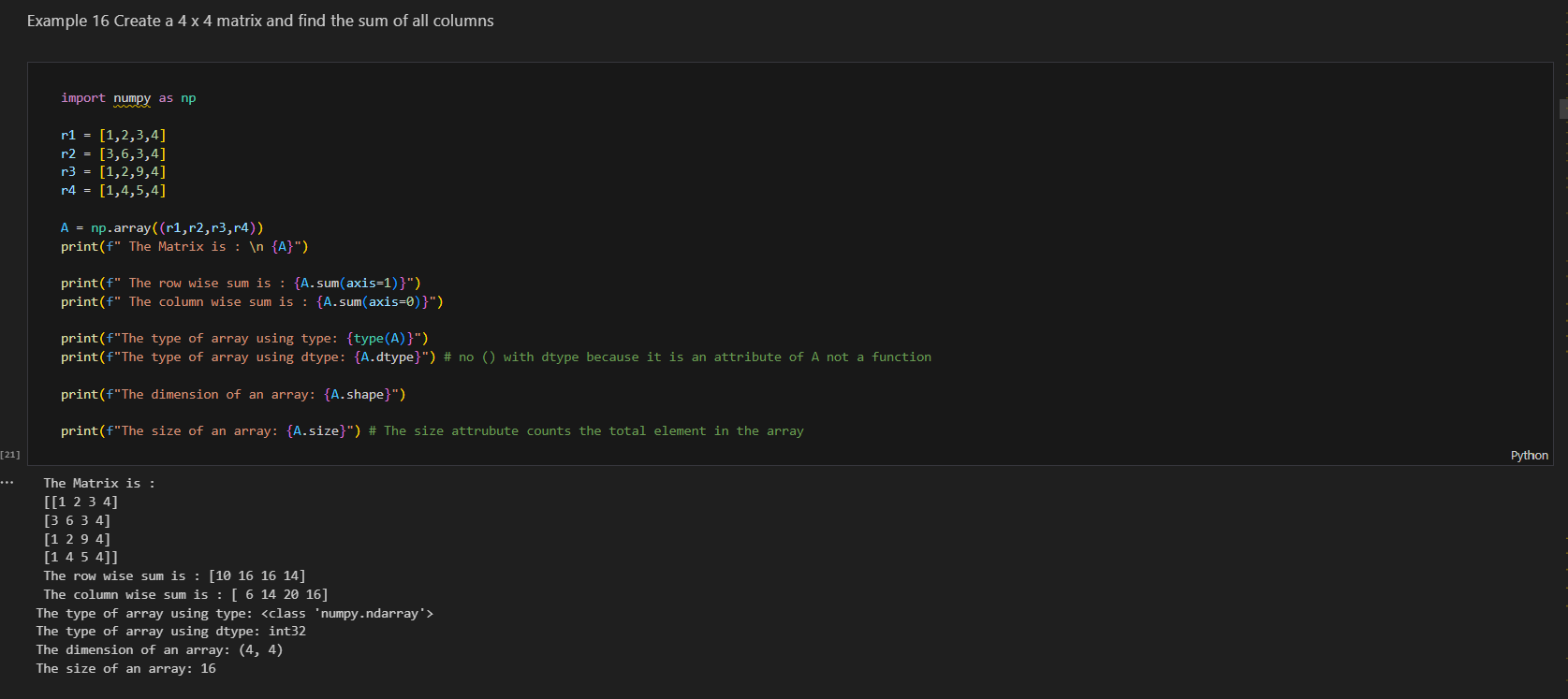
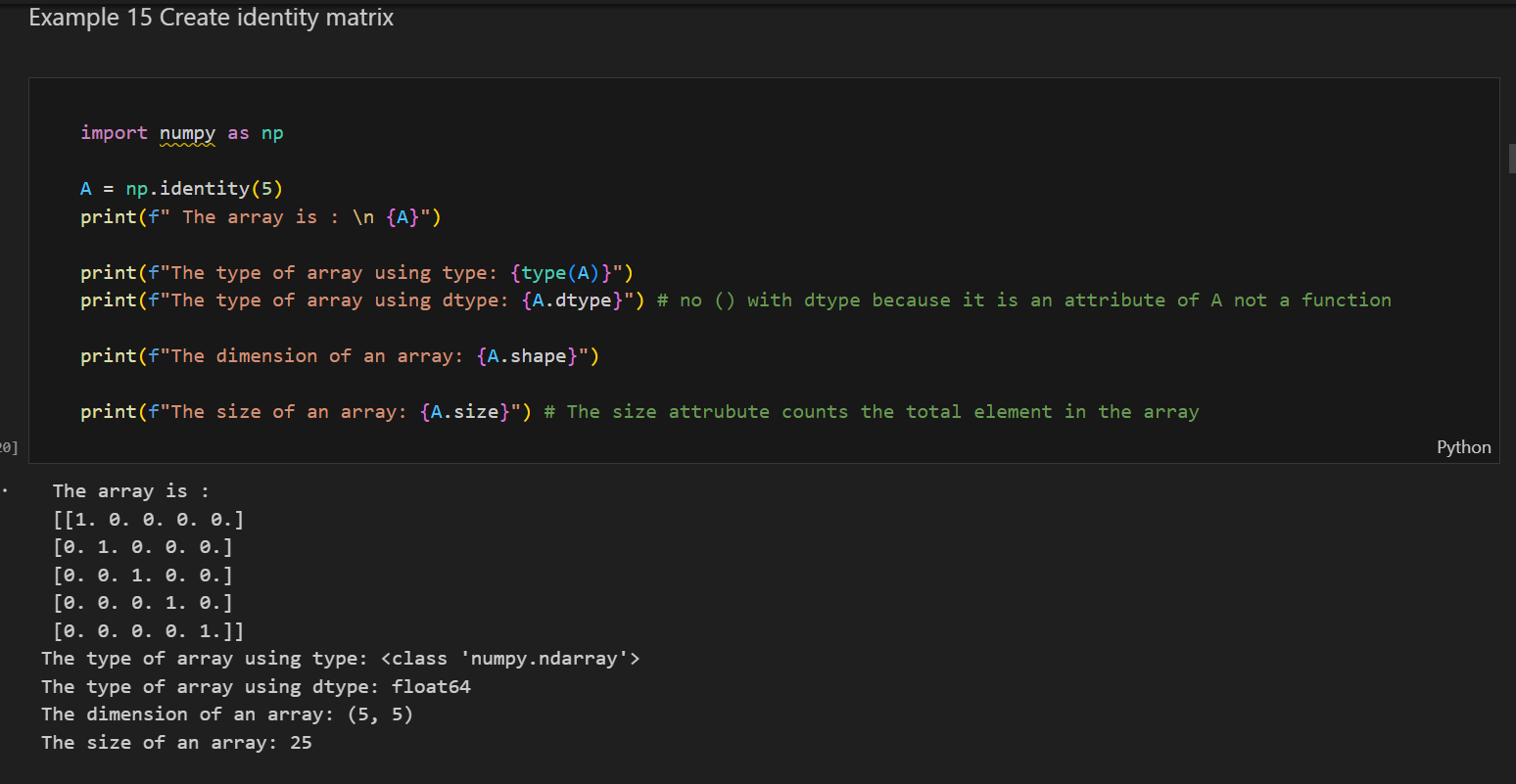
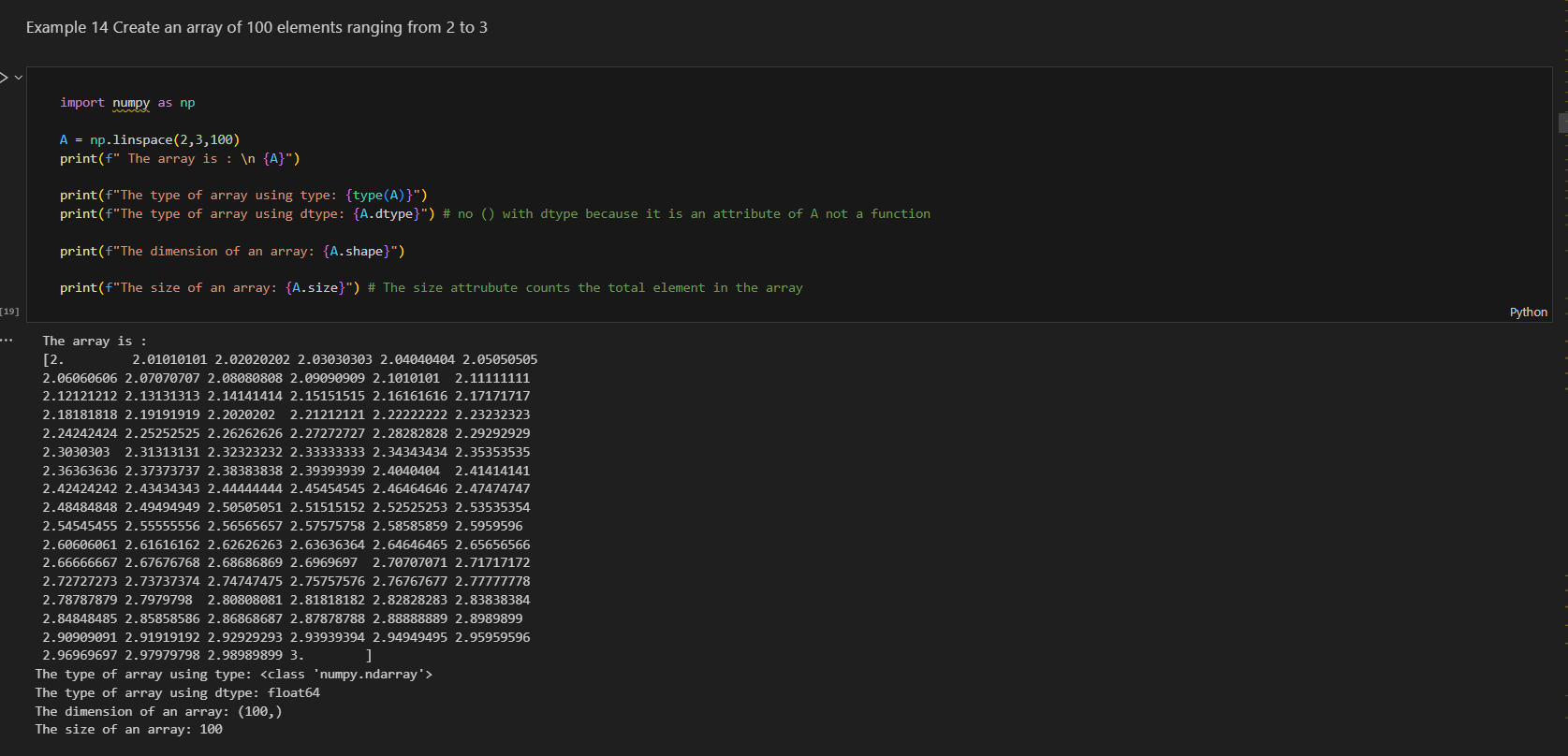
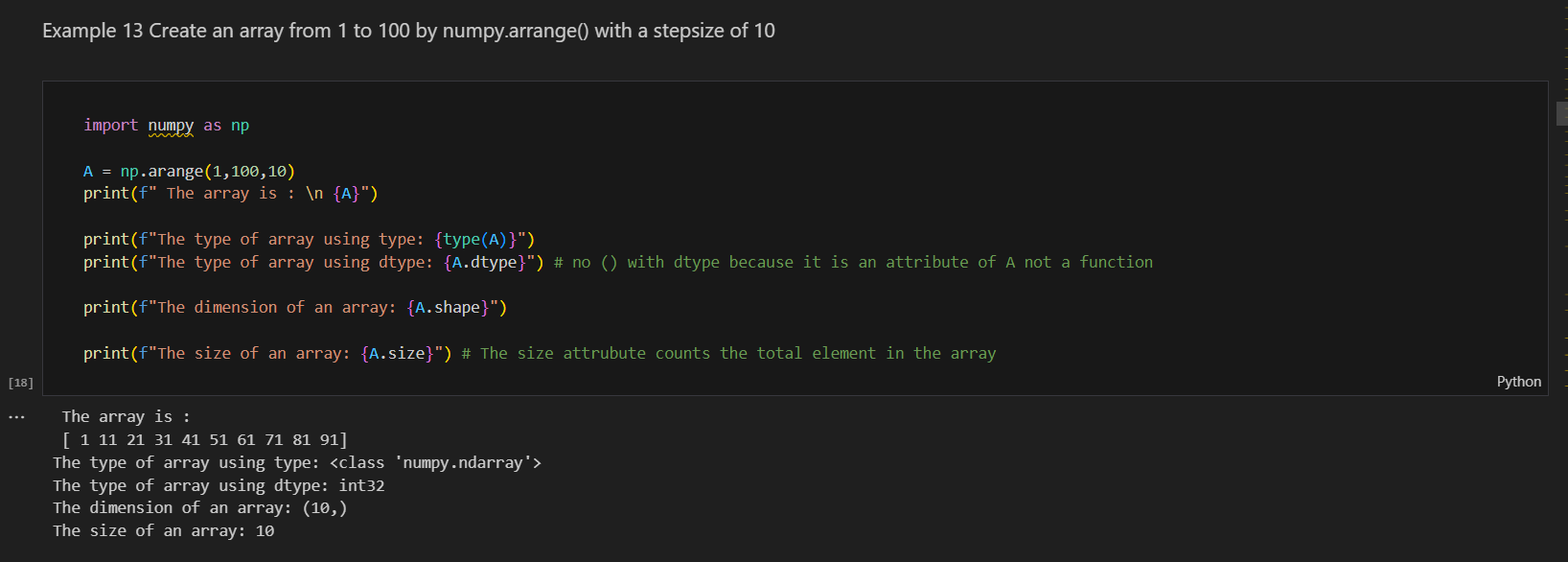
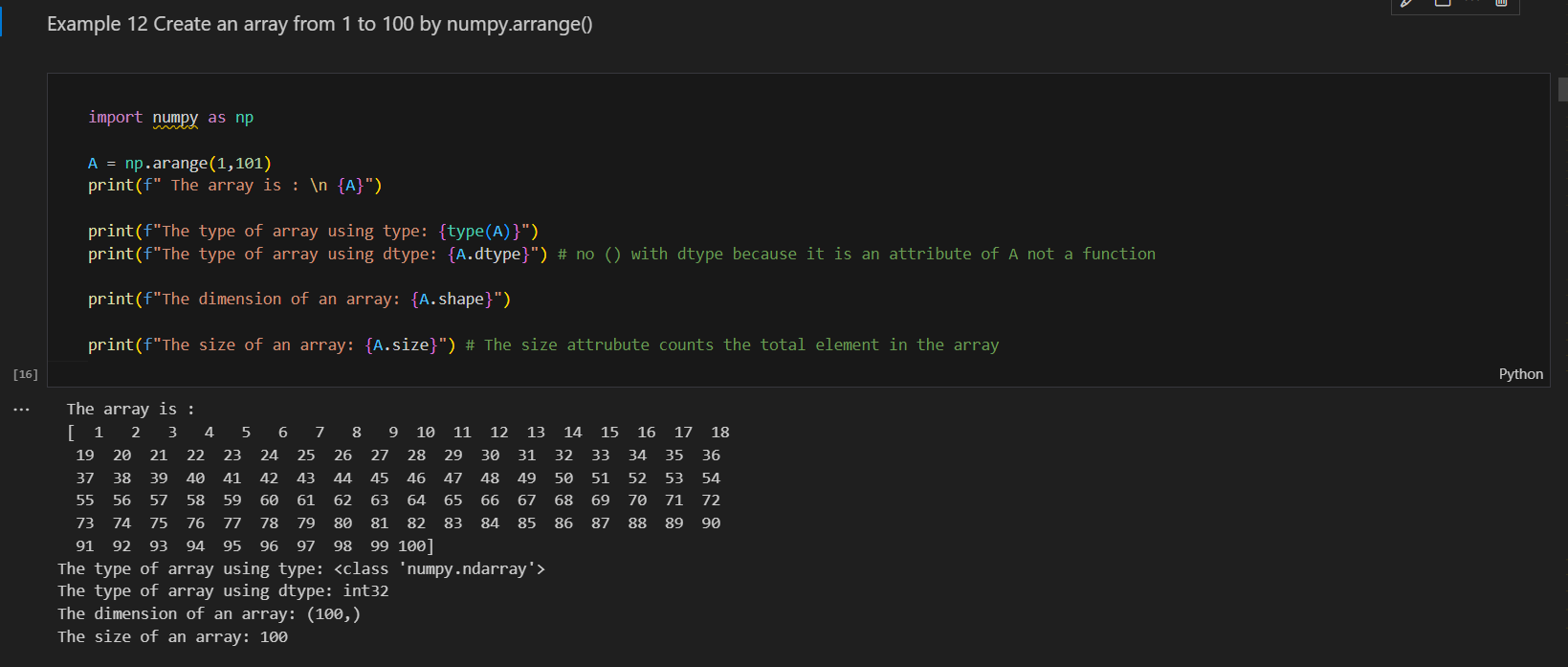
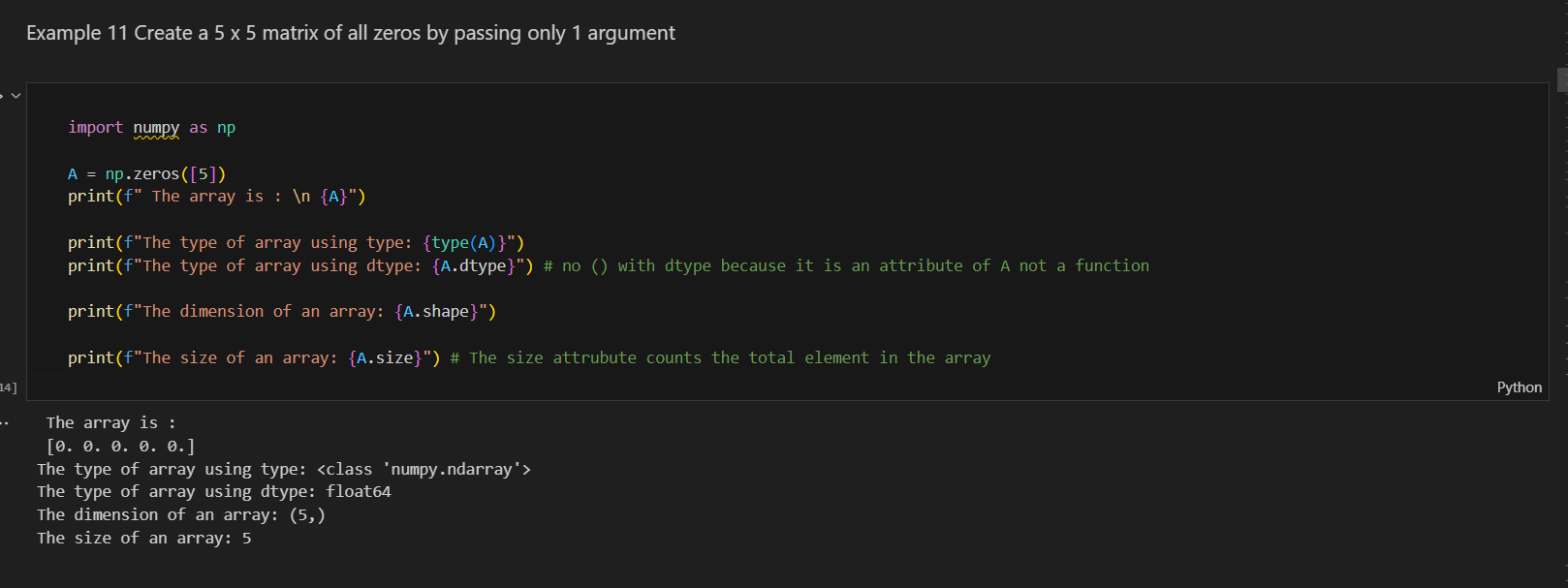
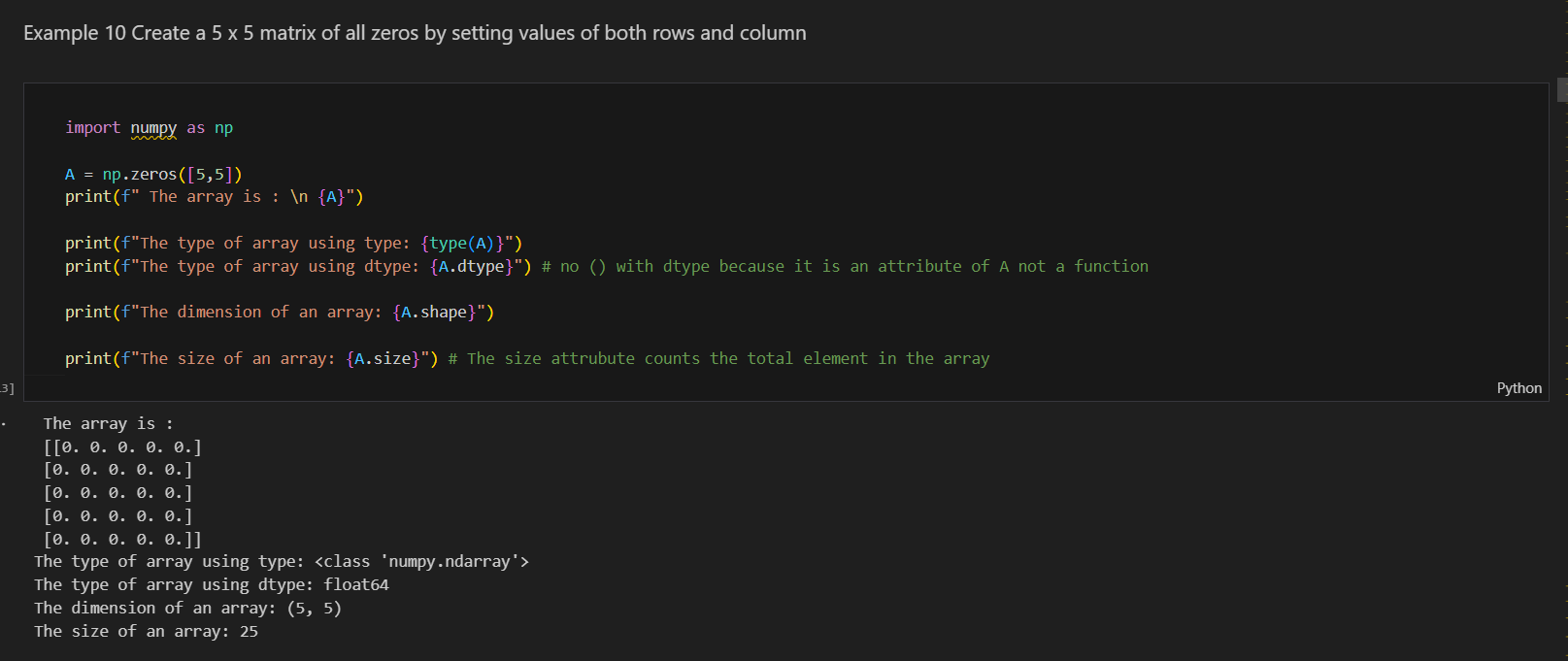
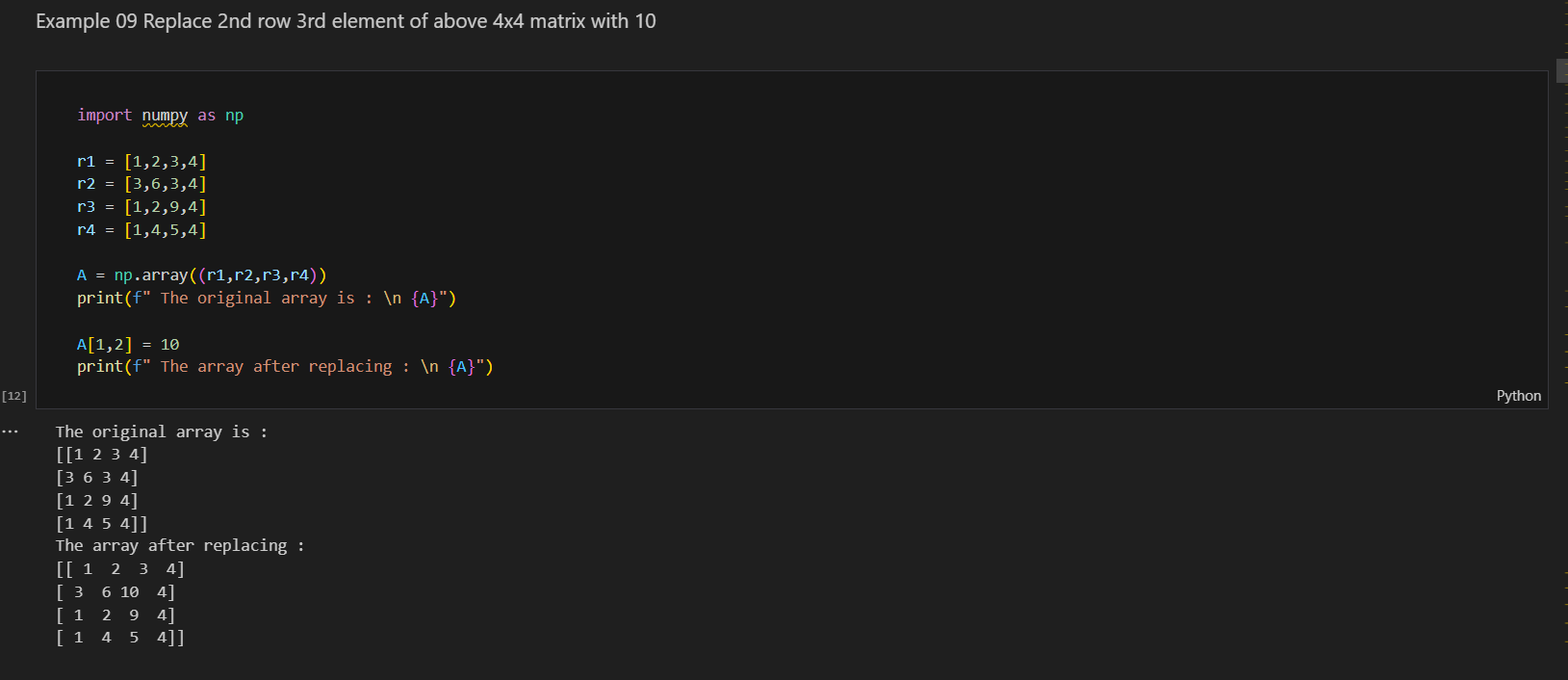
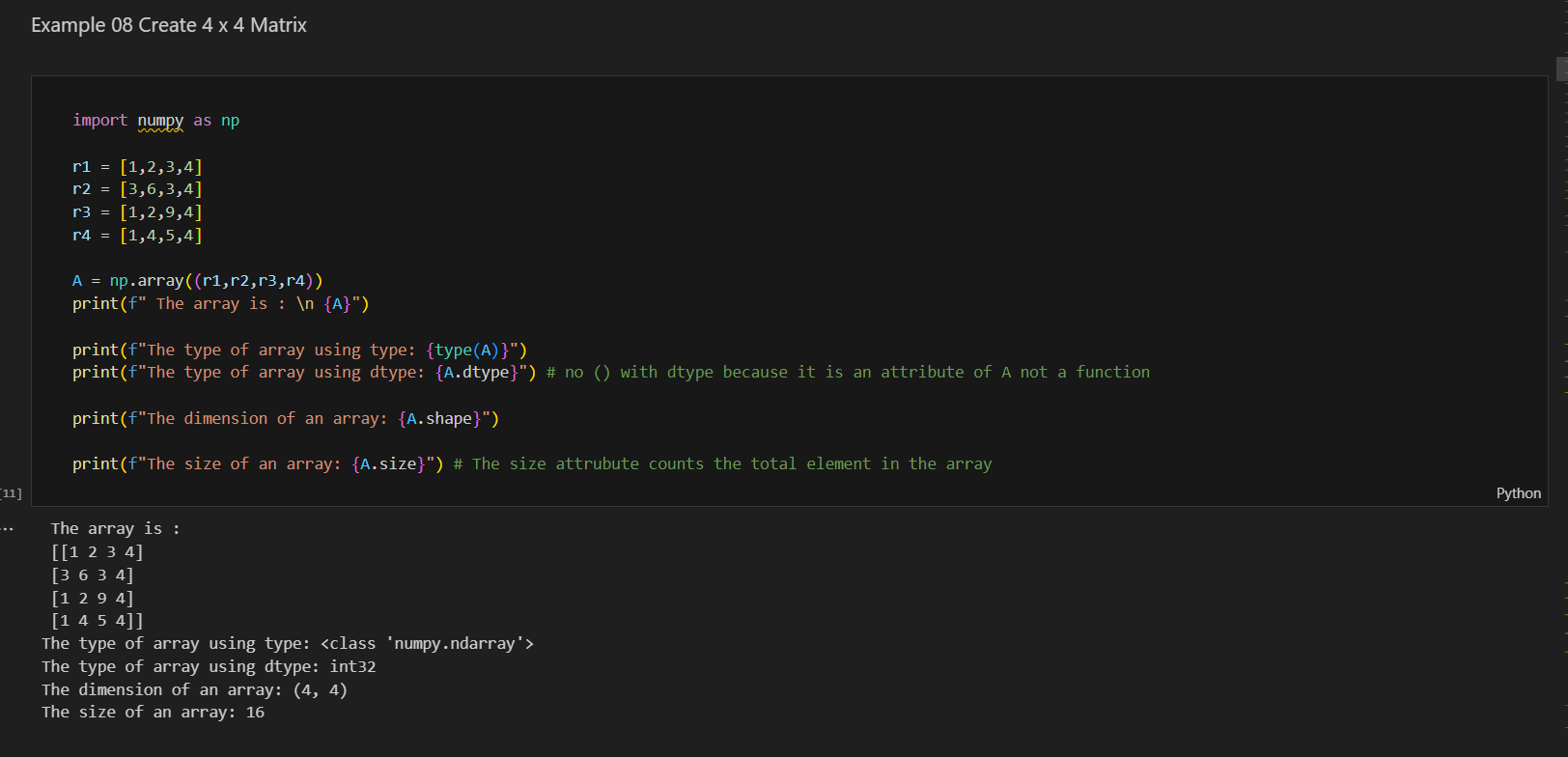
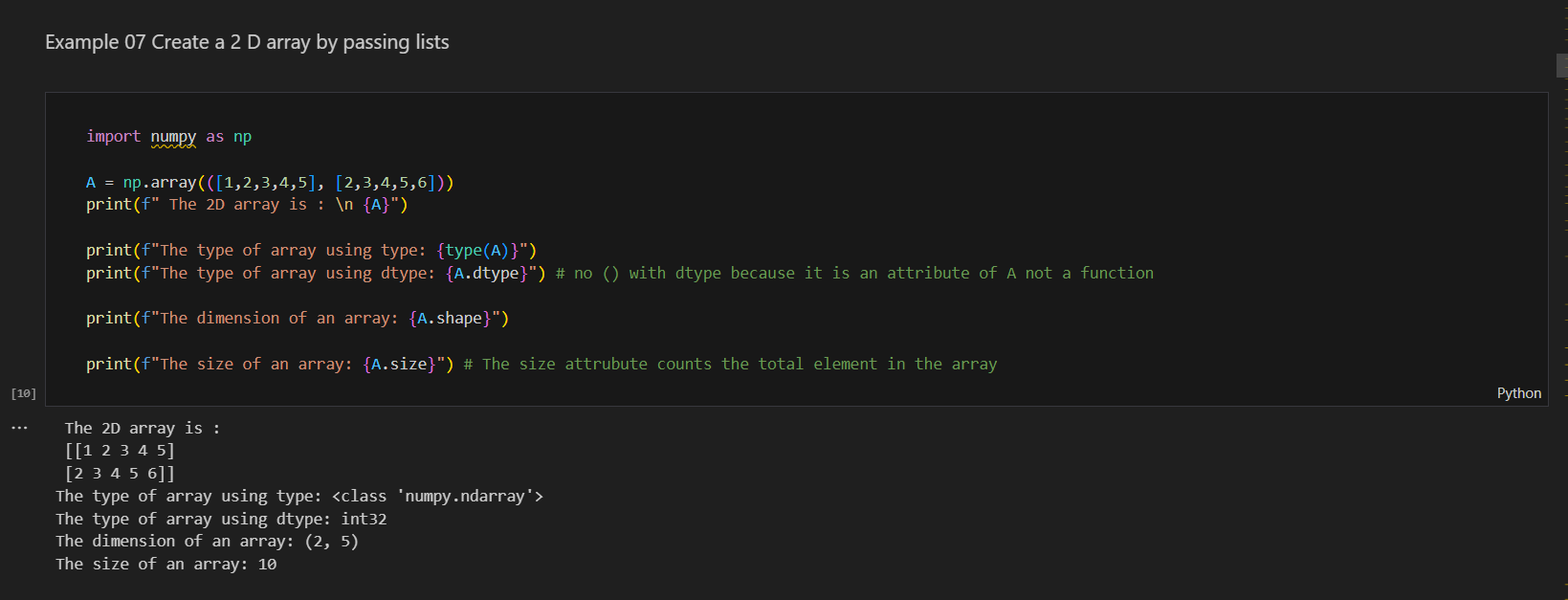
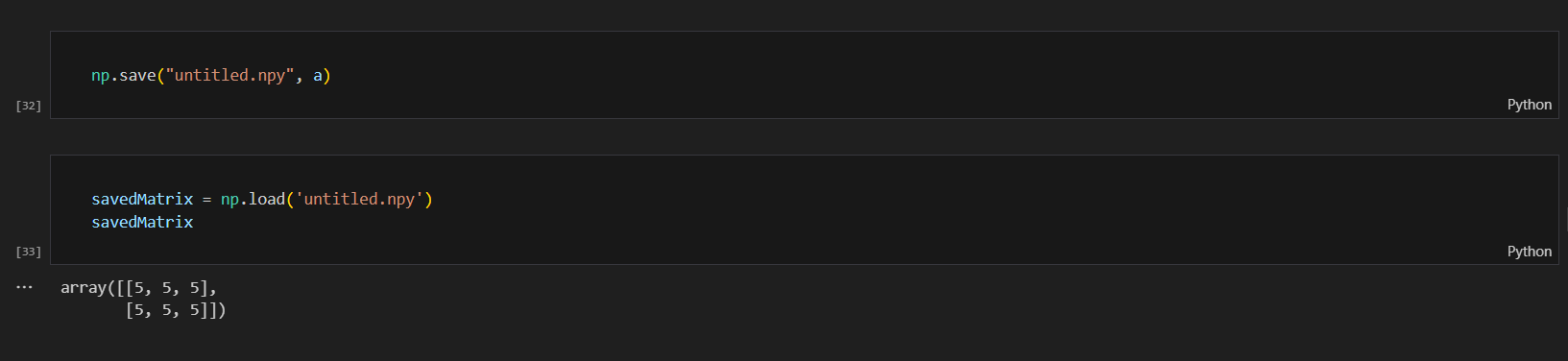
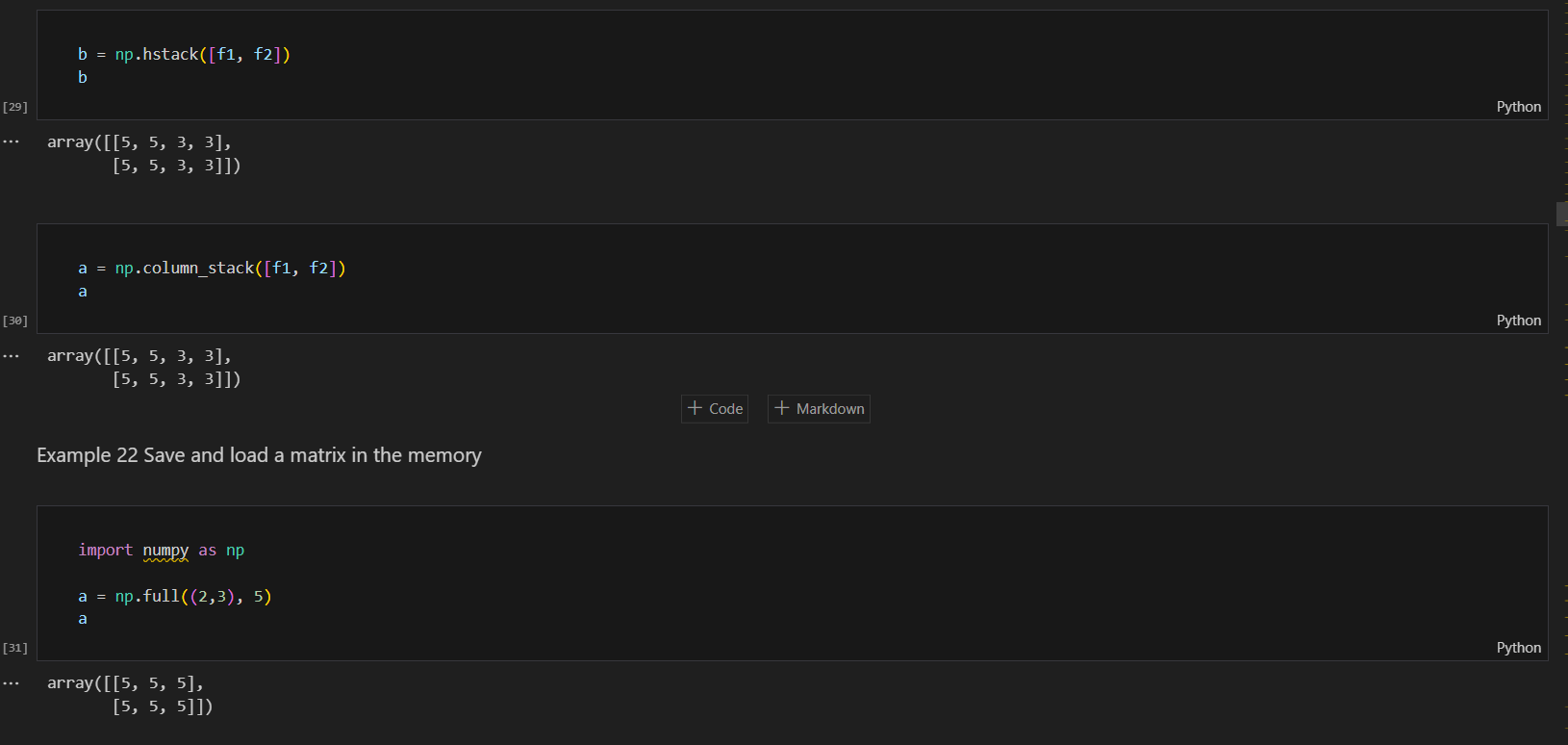
**INSTITUTE OF SPACE TECHNOLOGY**

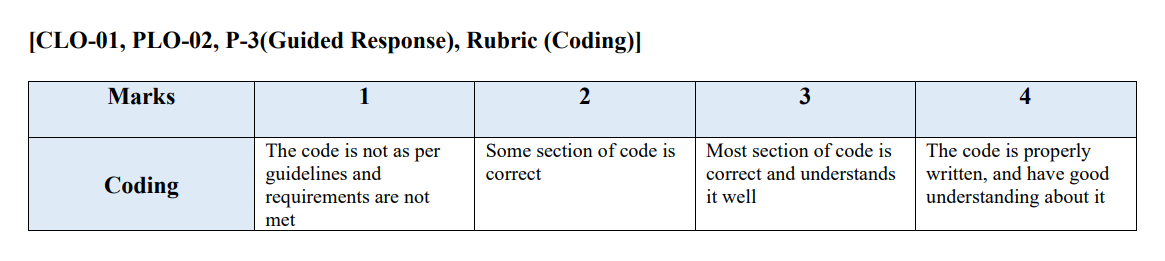
**KICSIT, KAHUTA CAMPUS**

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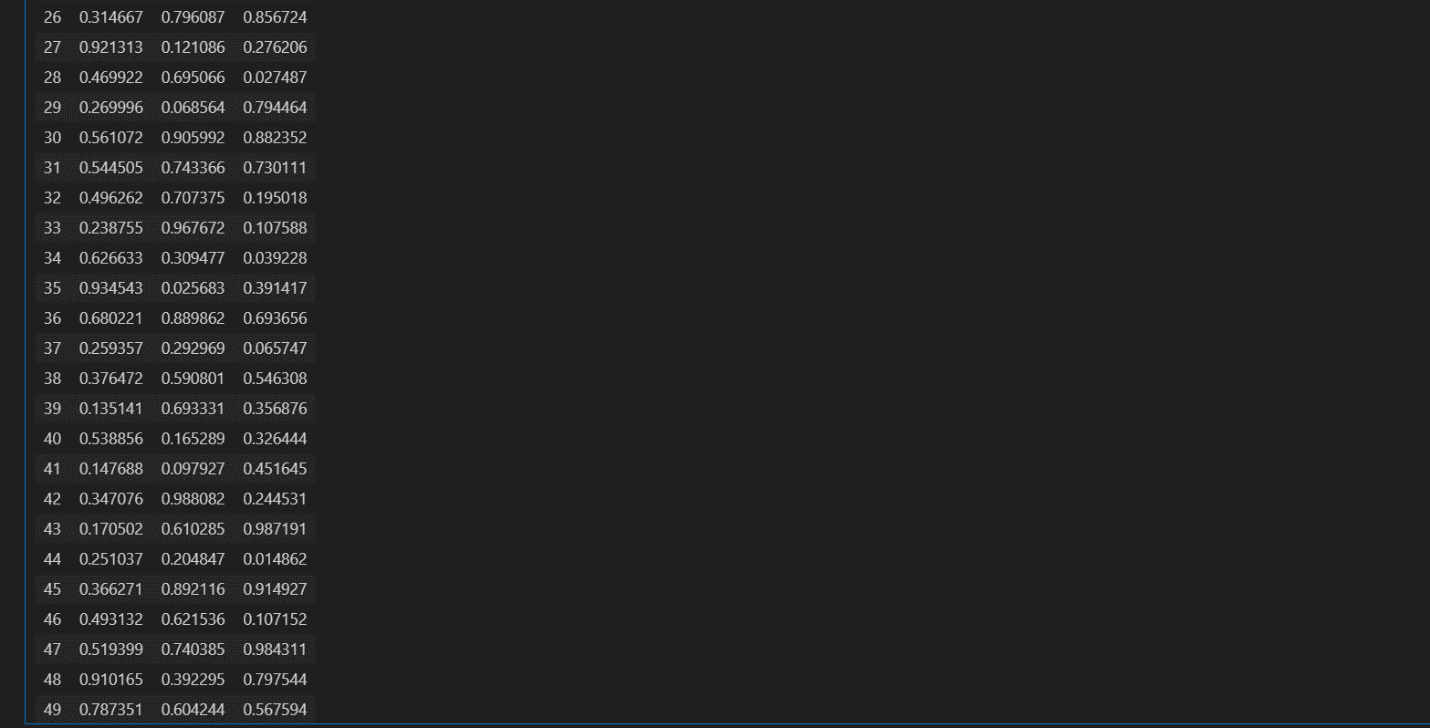
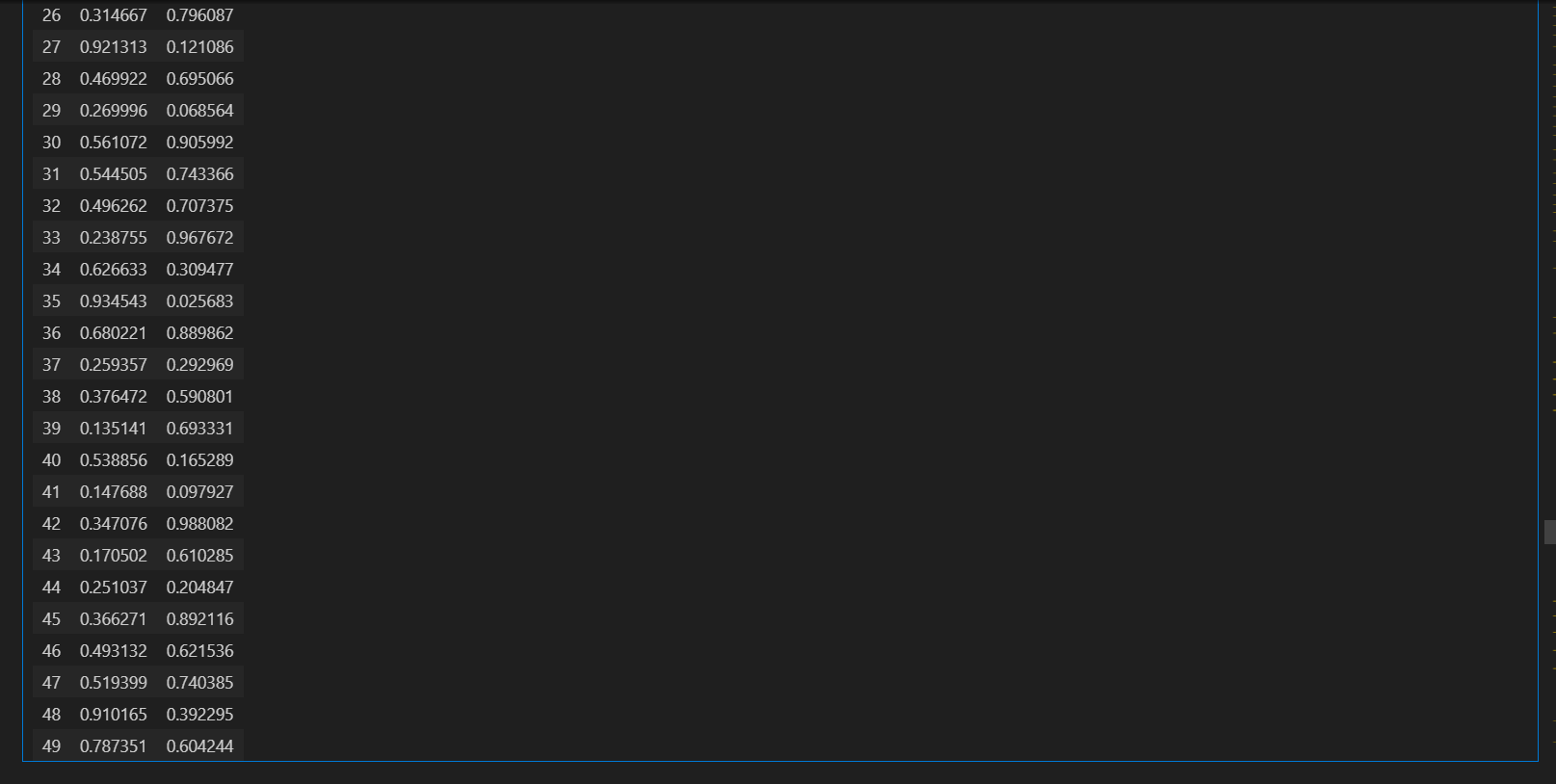
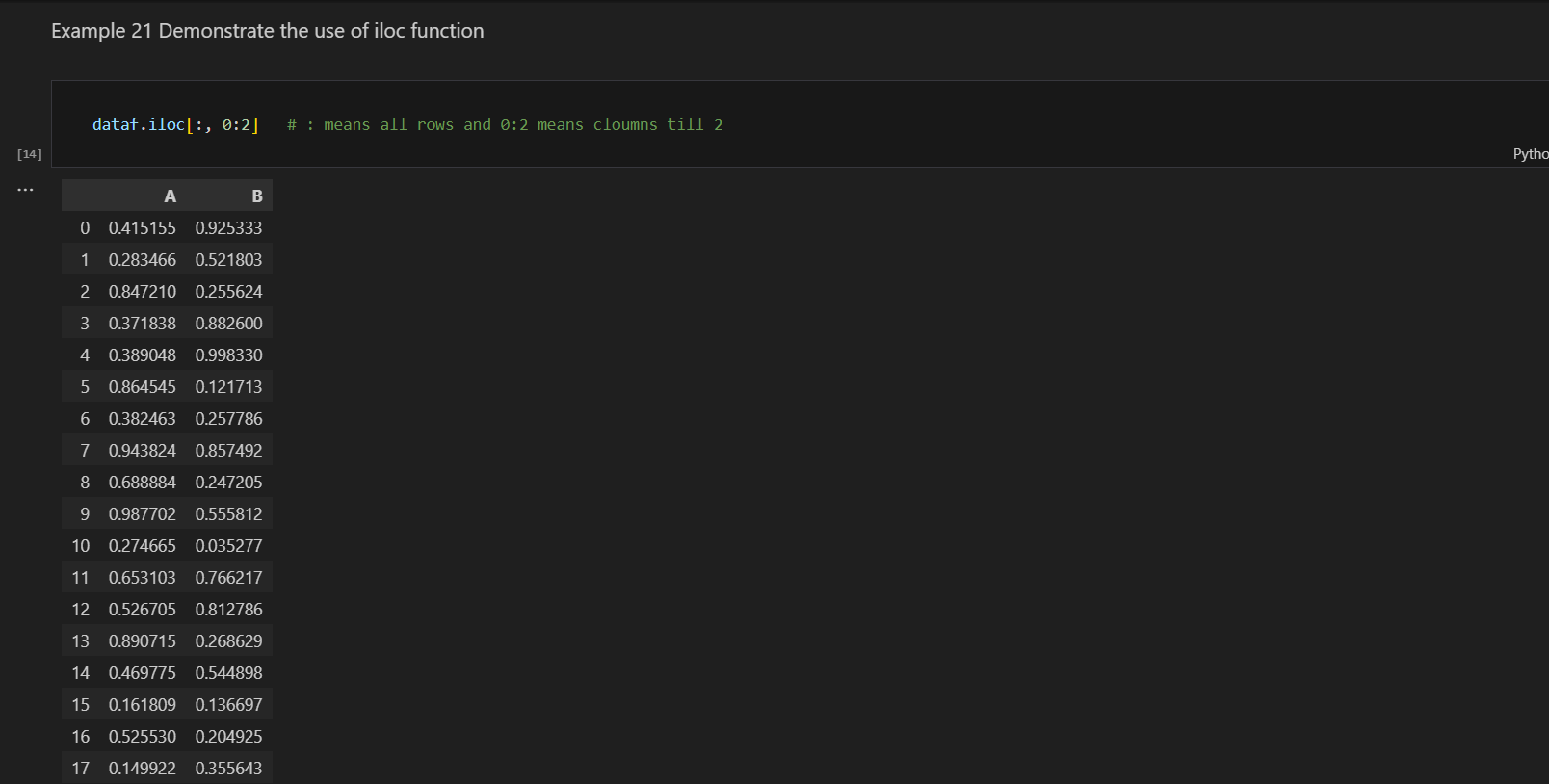
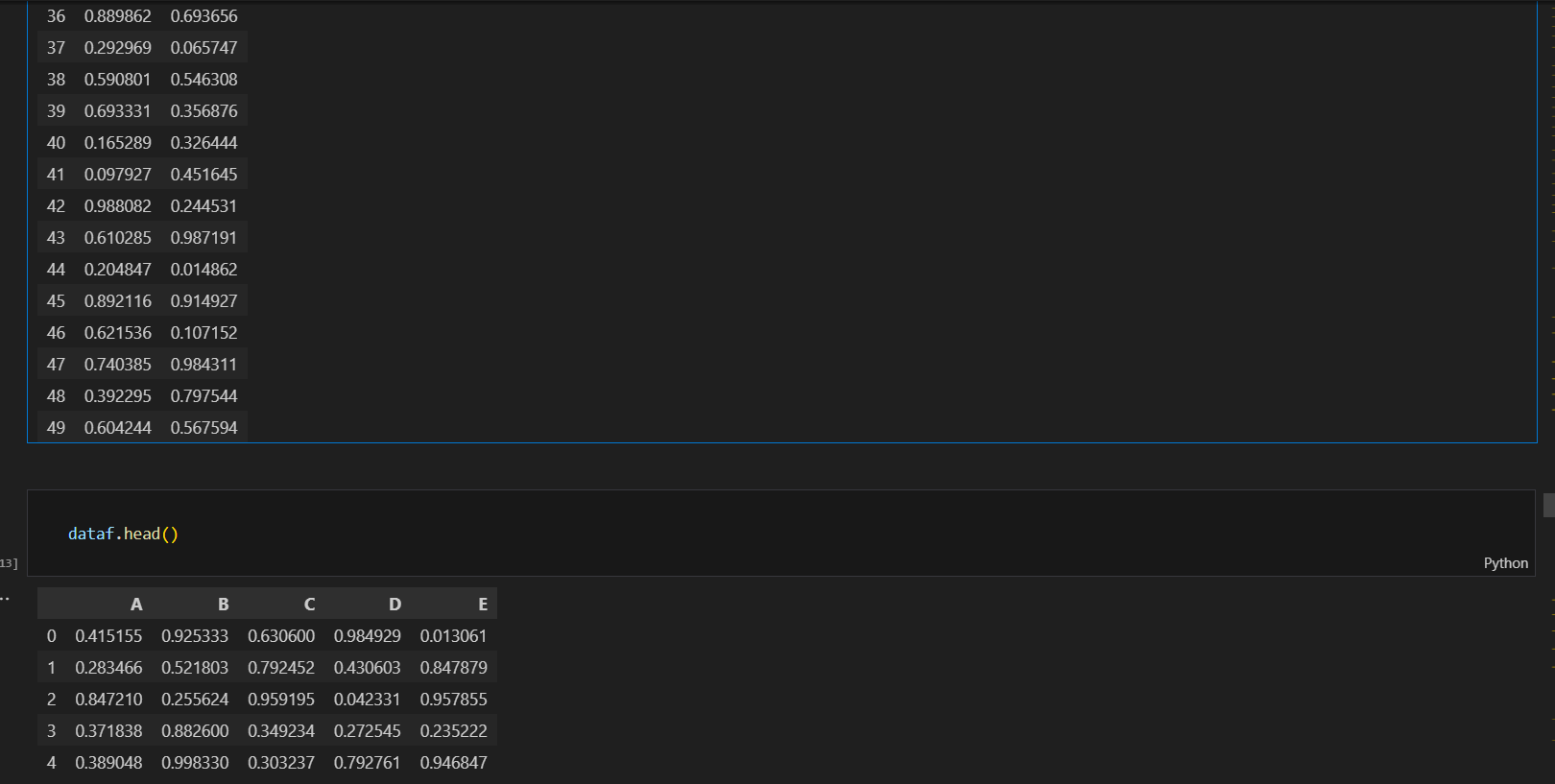
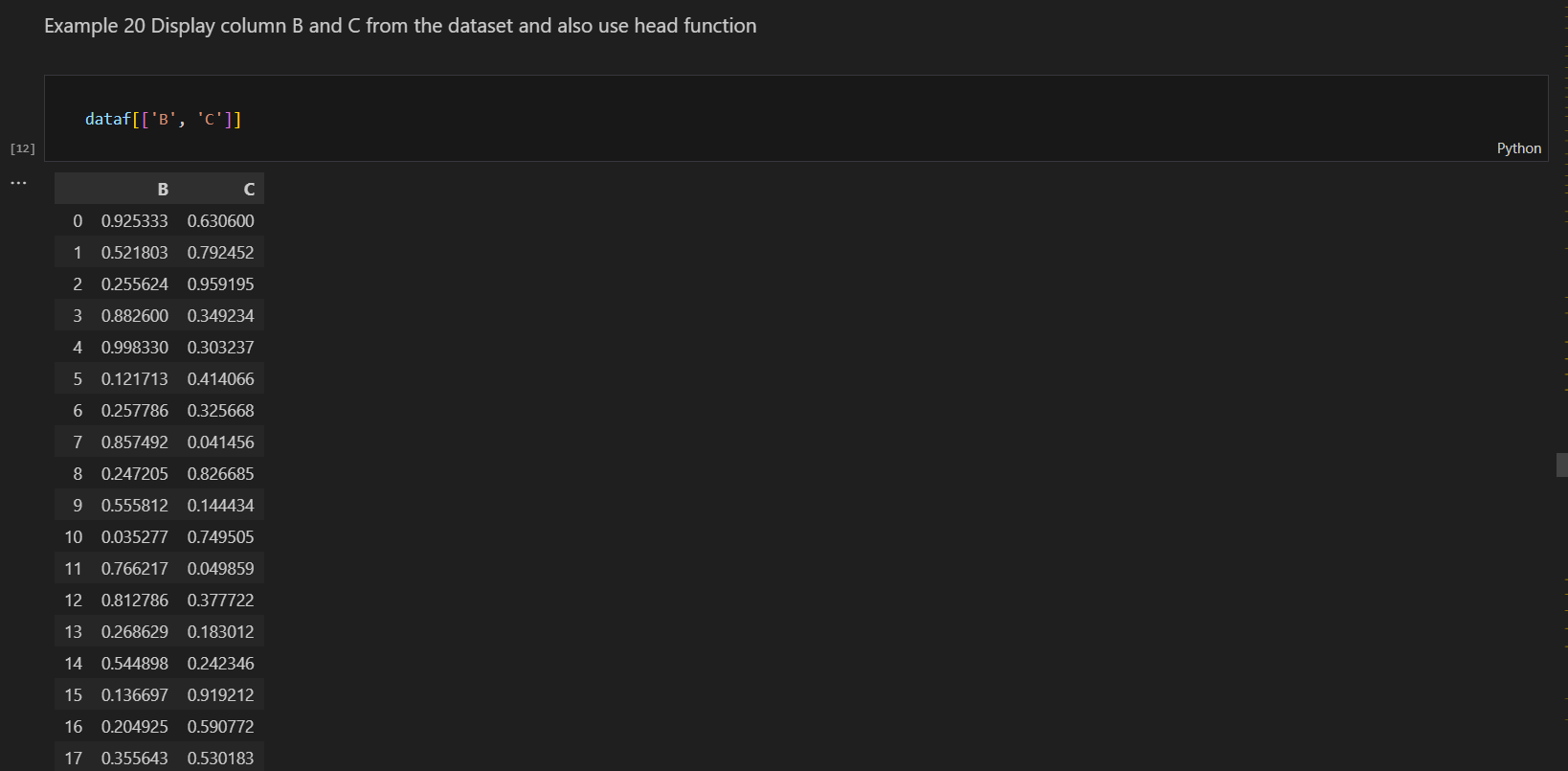
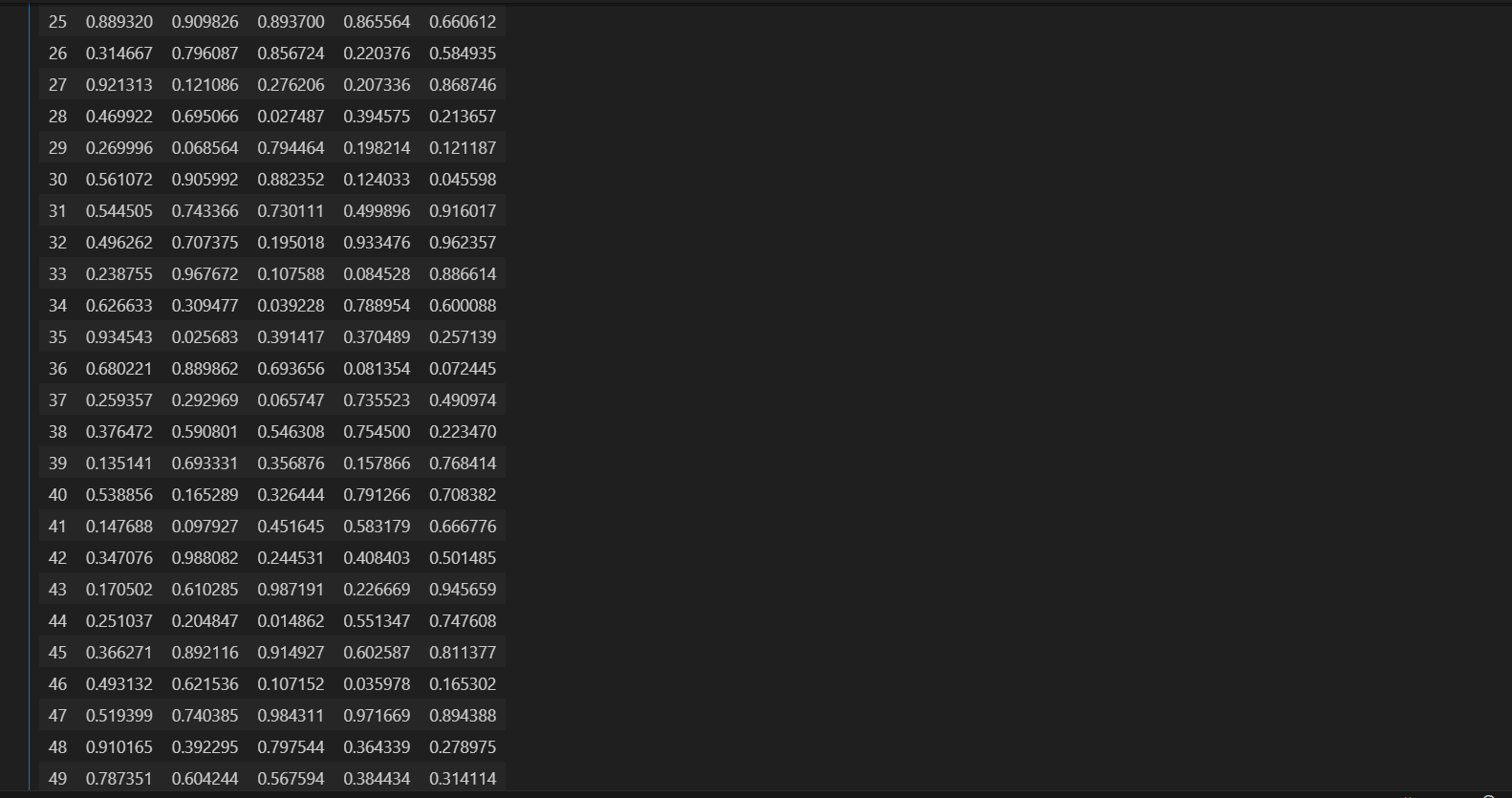
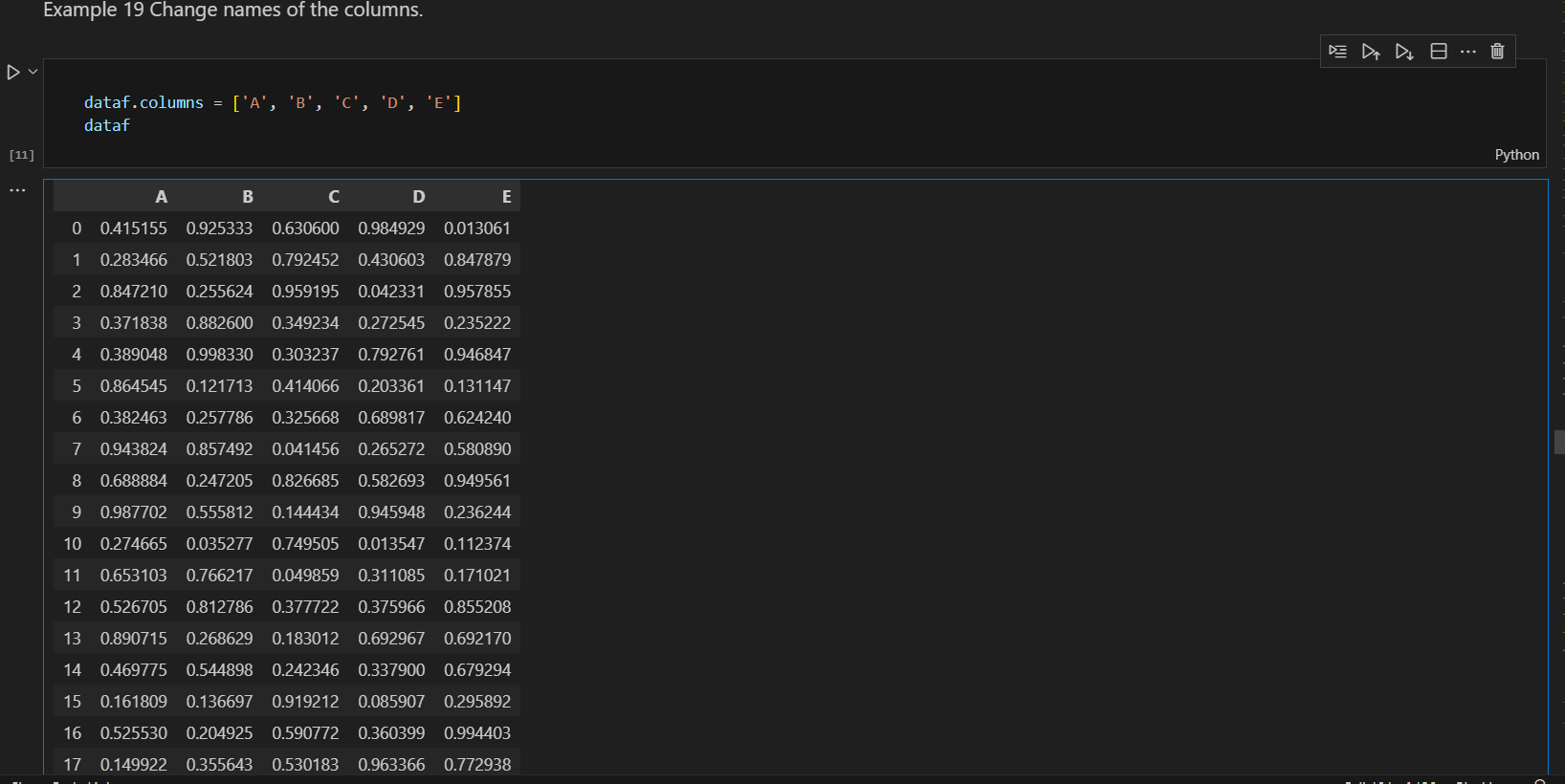
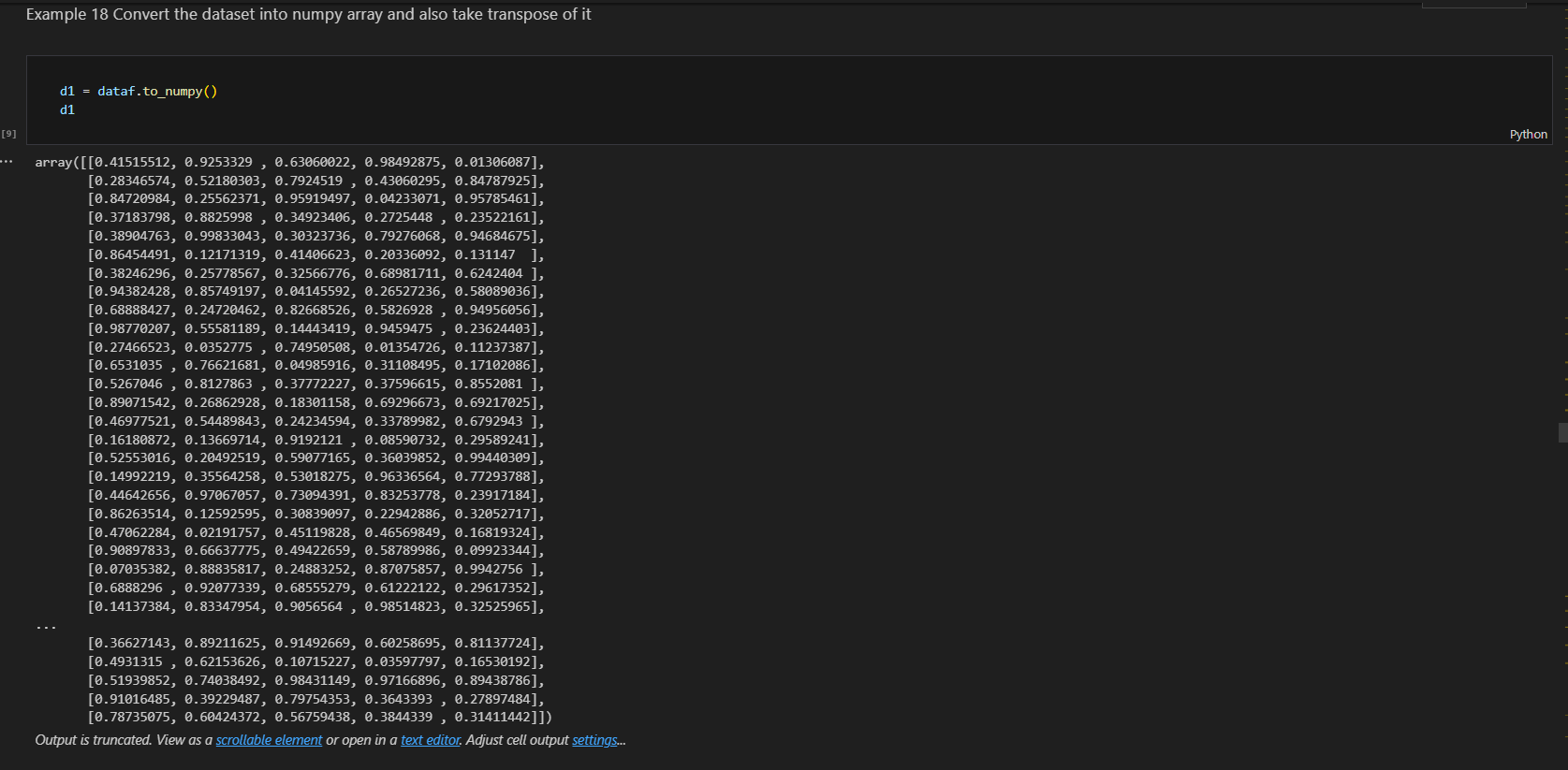
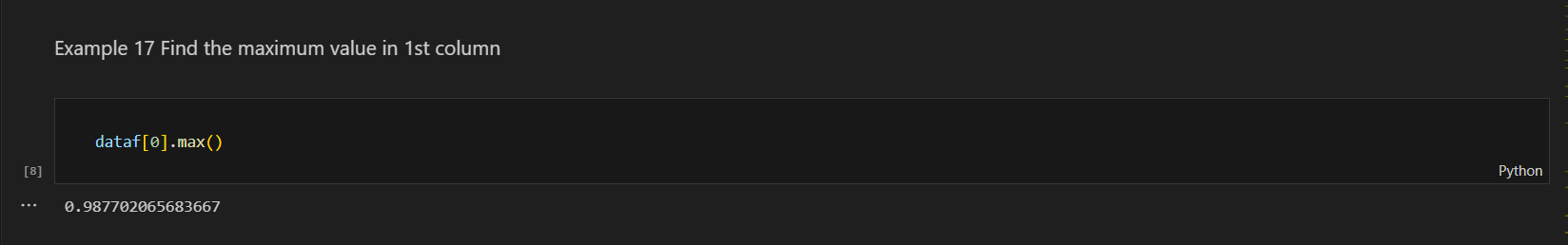
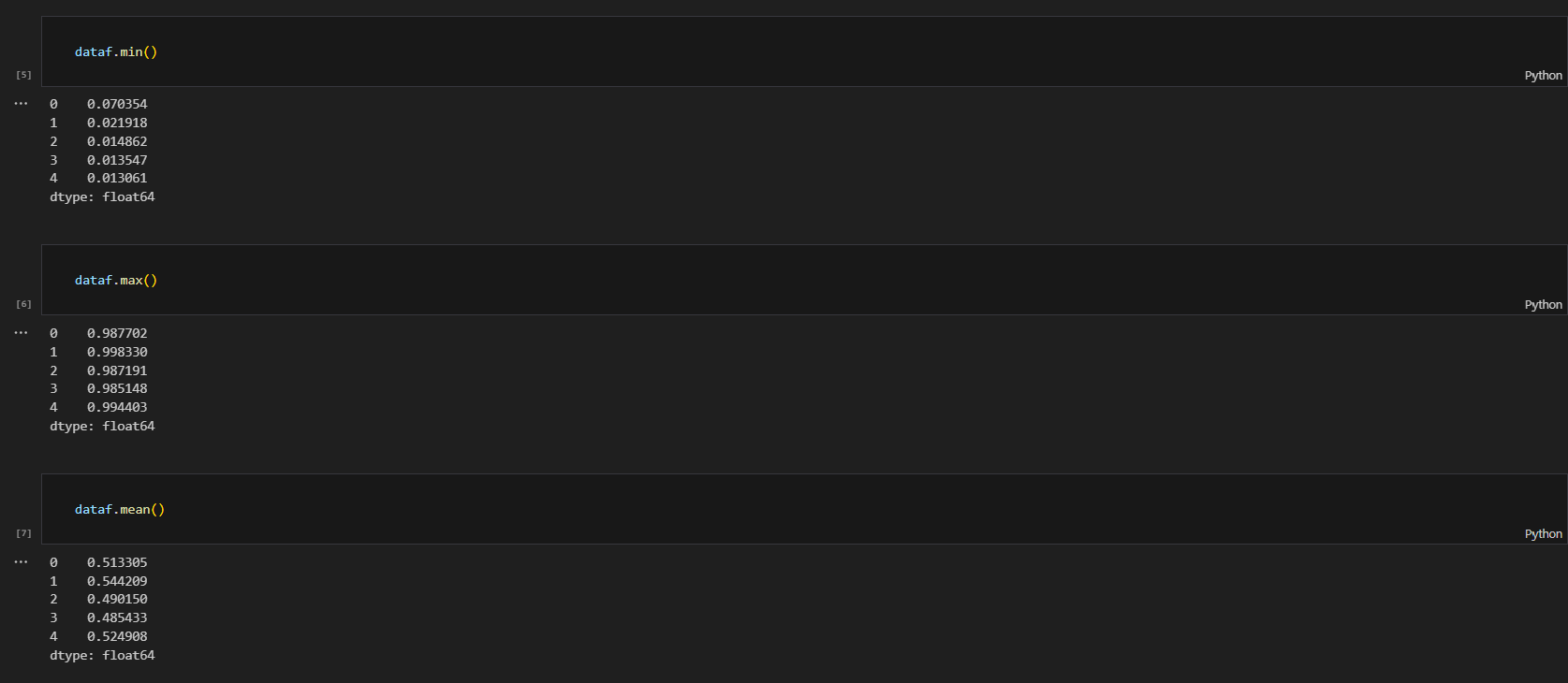
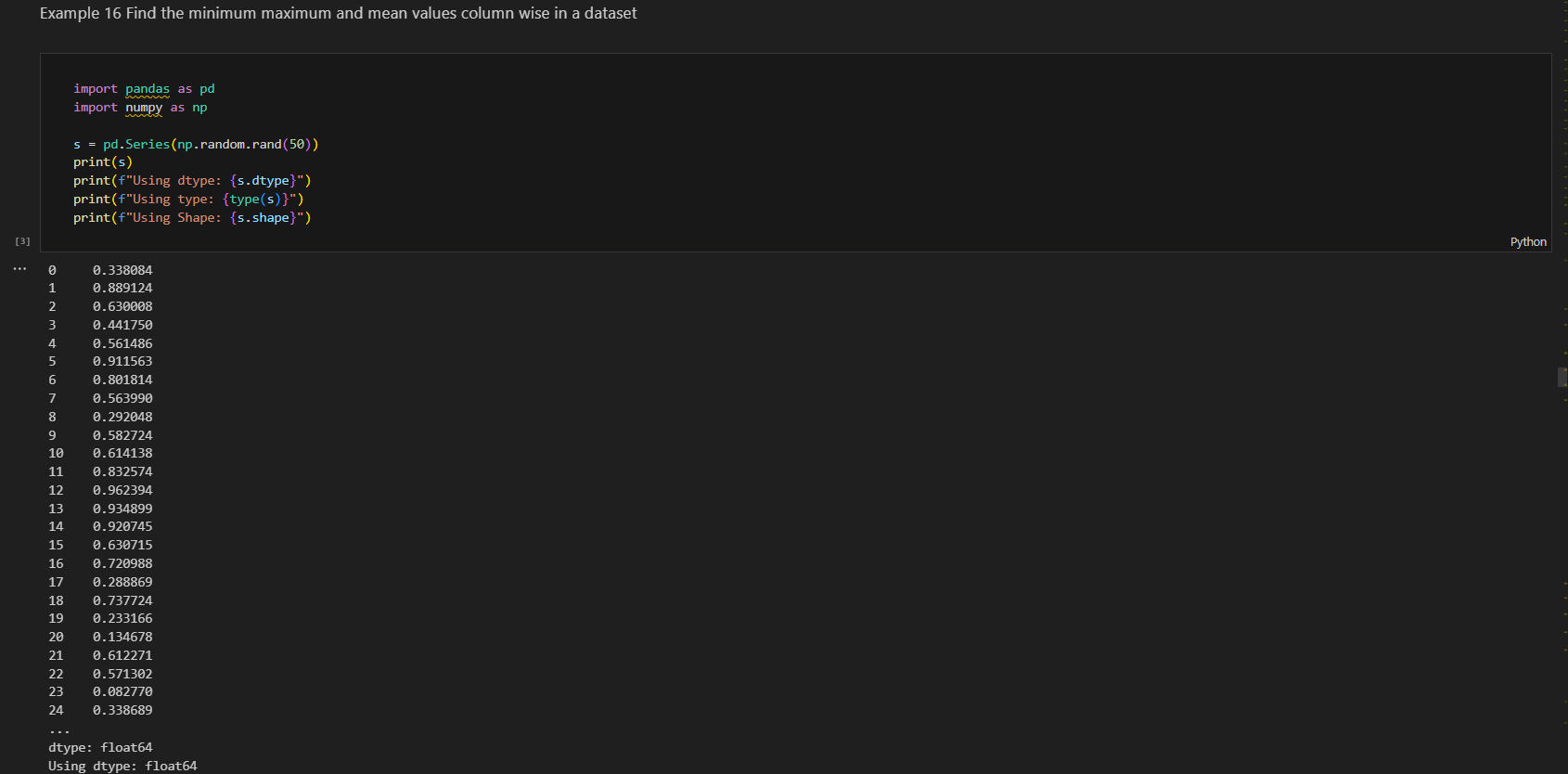
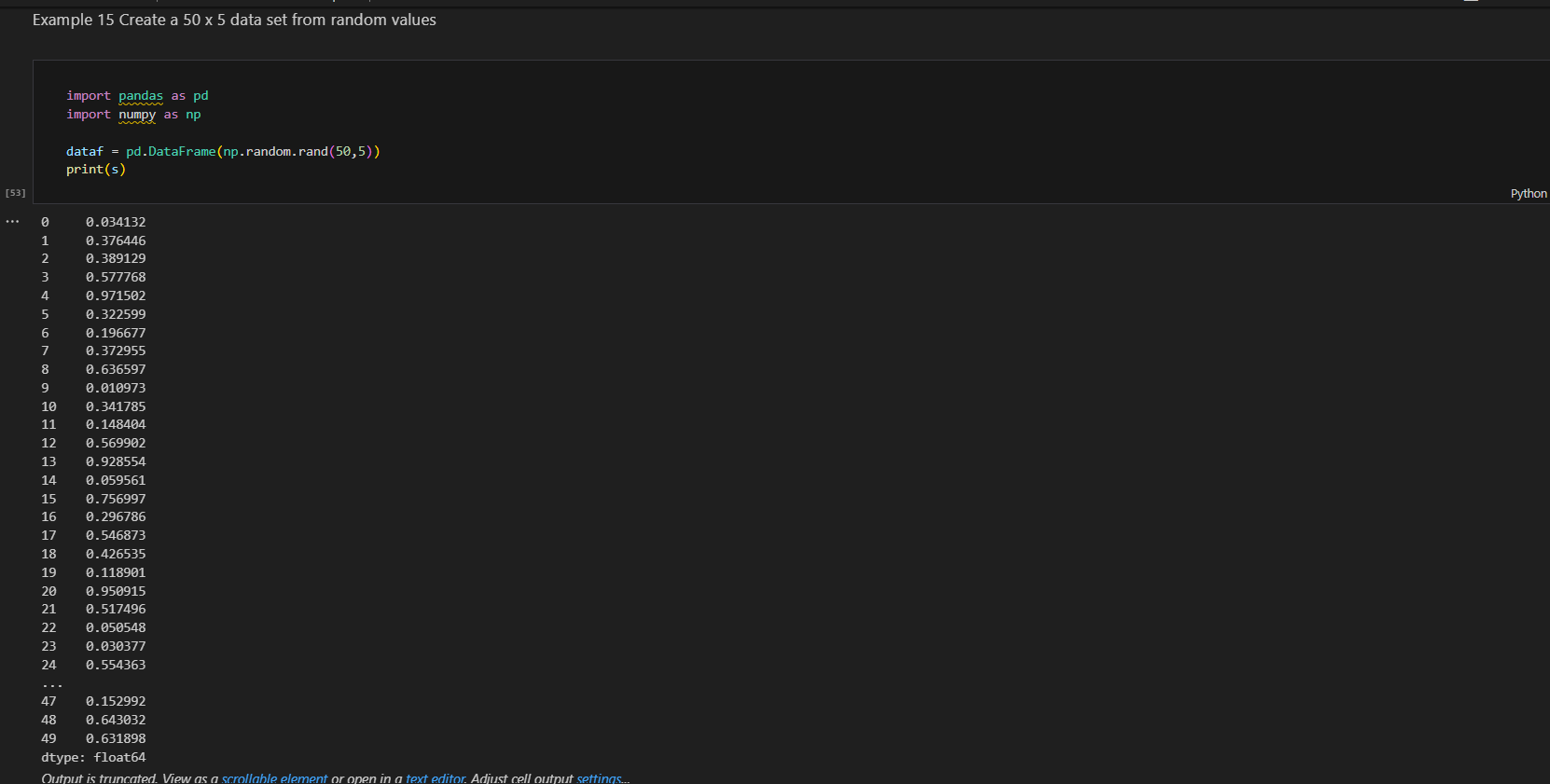
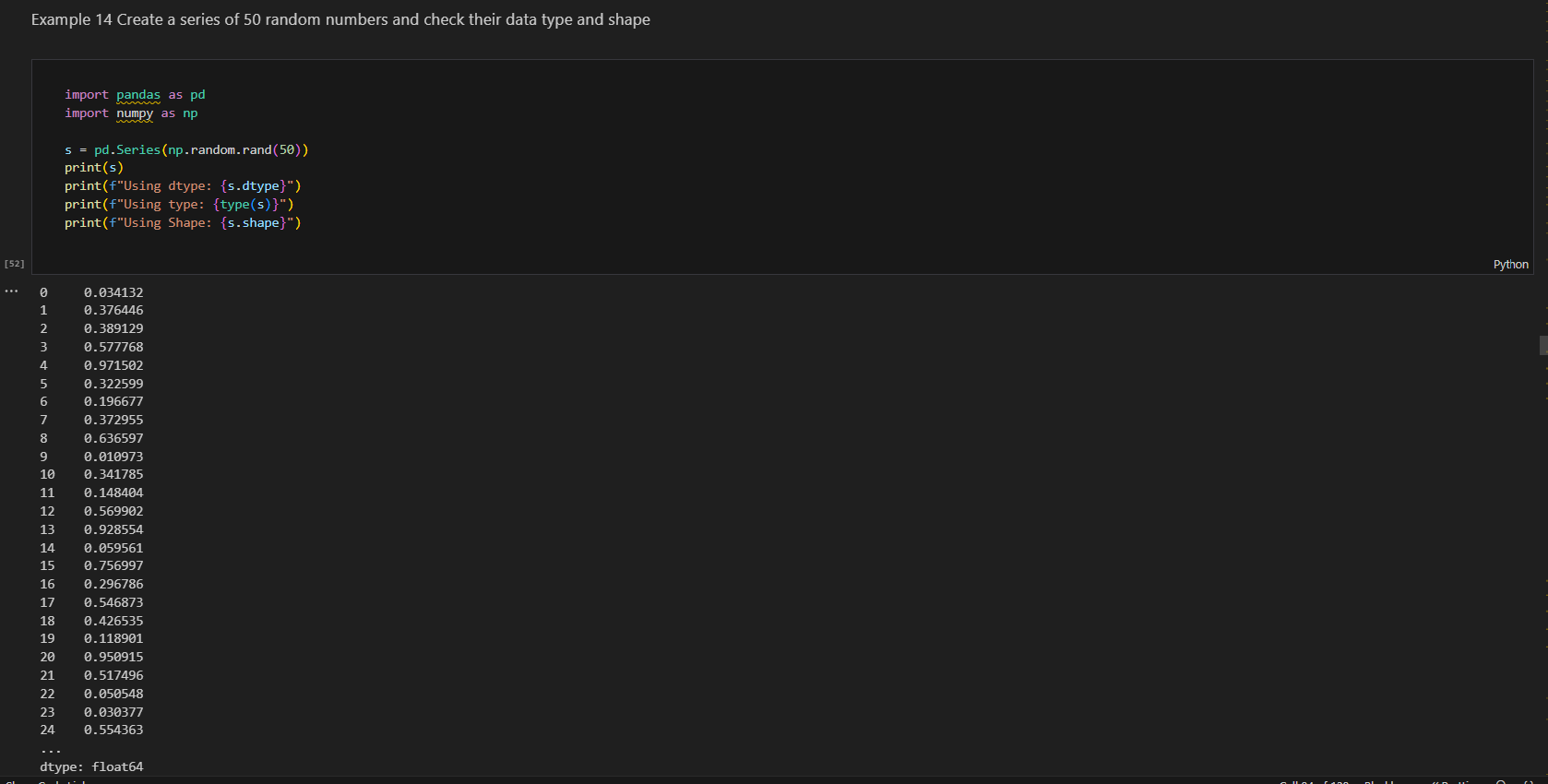
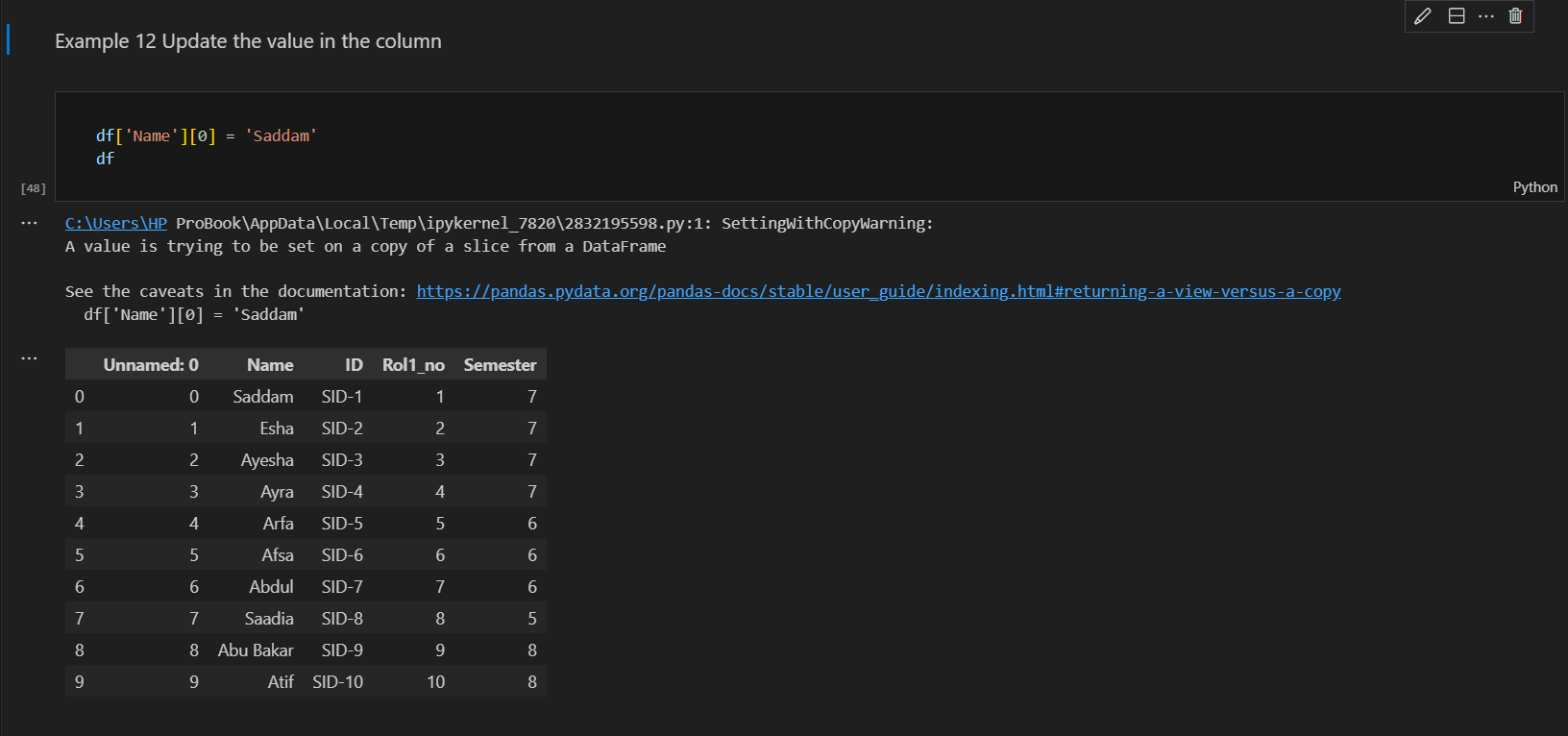
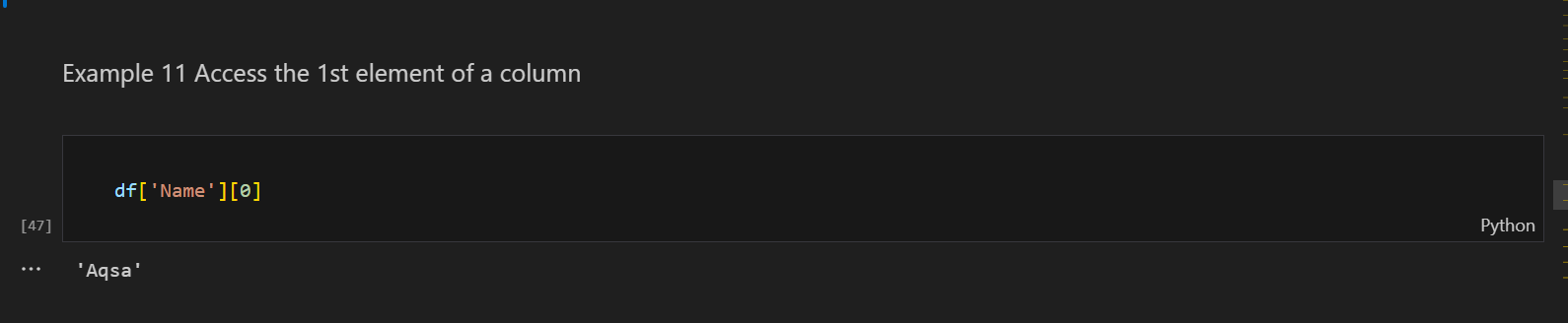
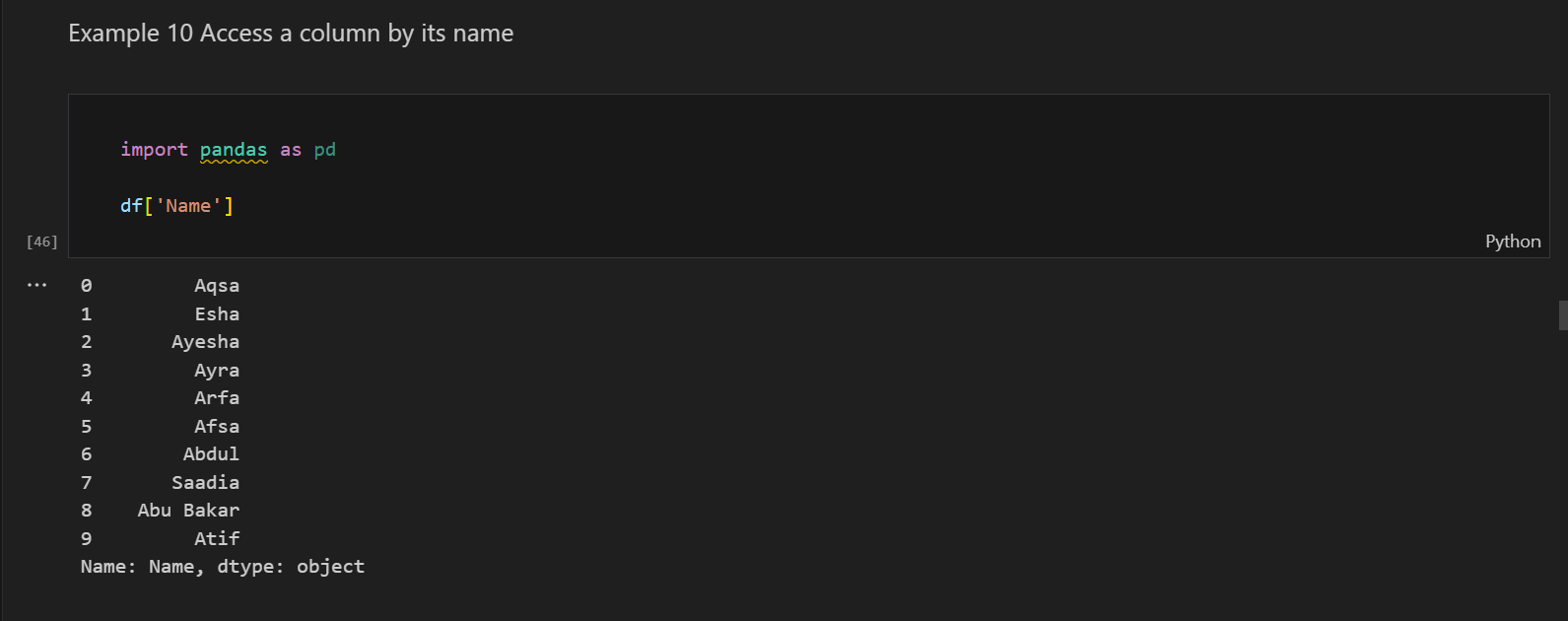
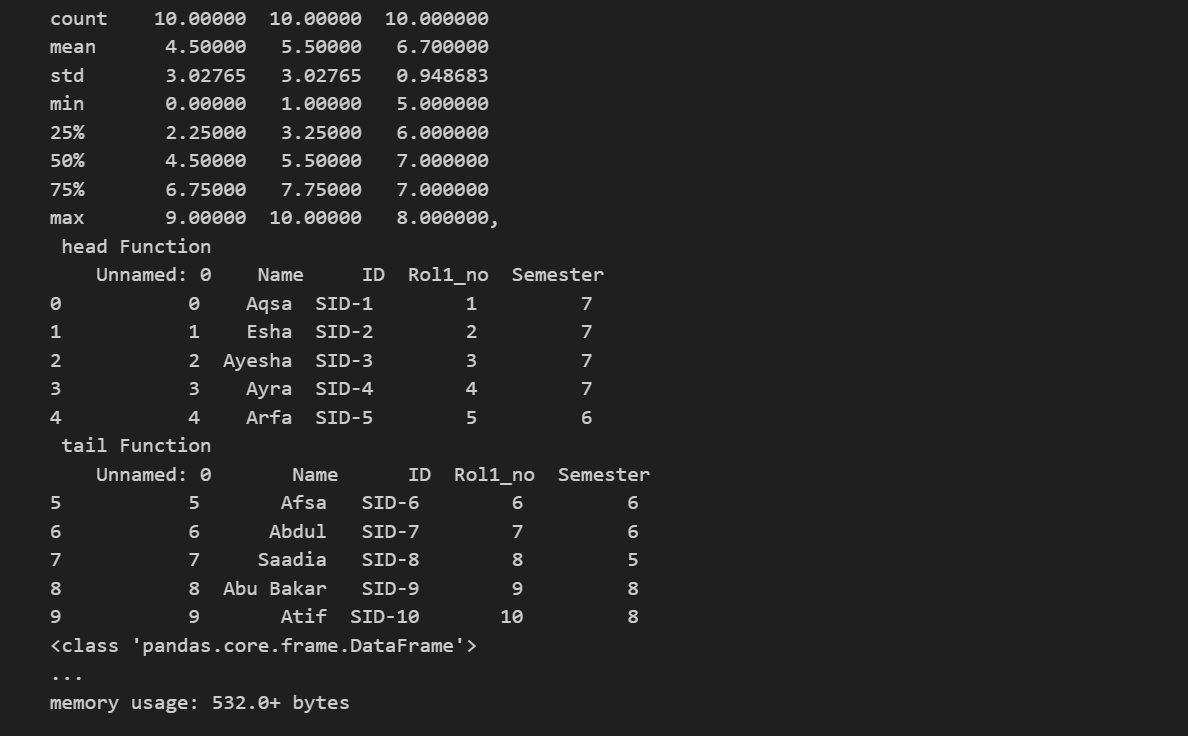
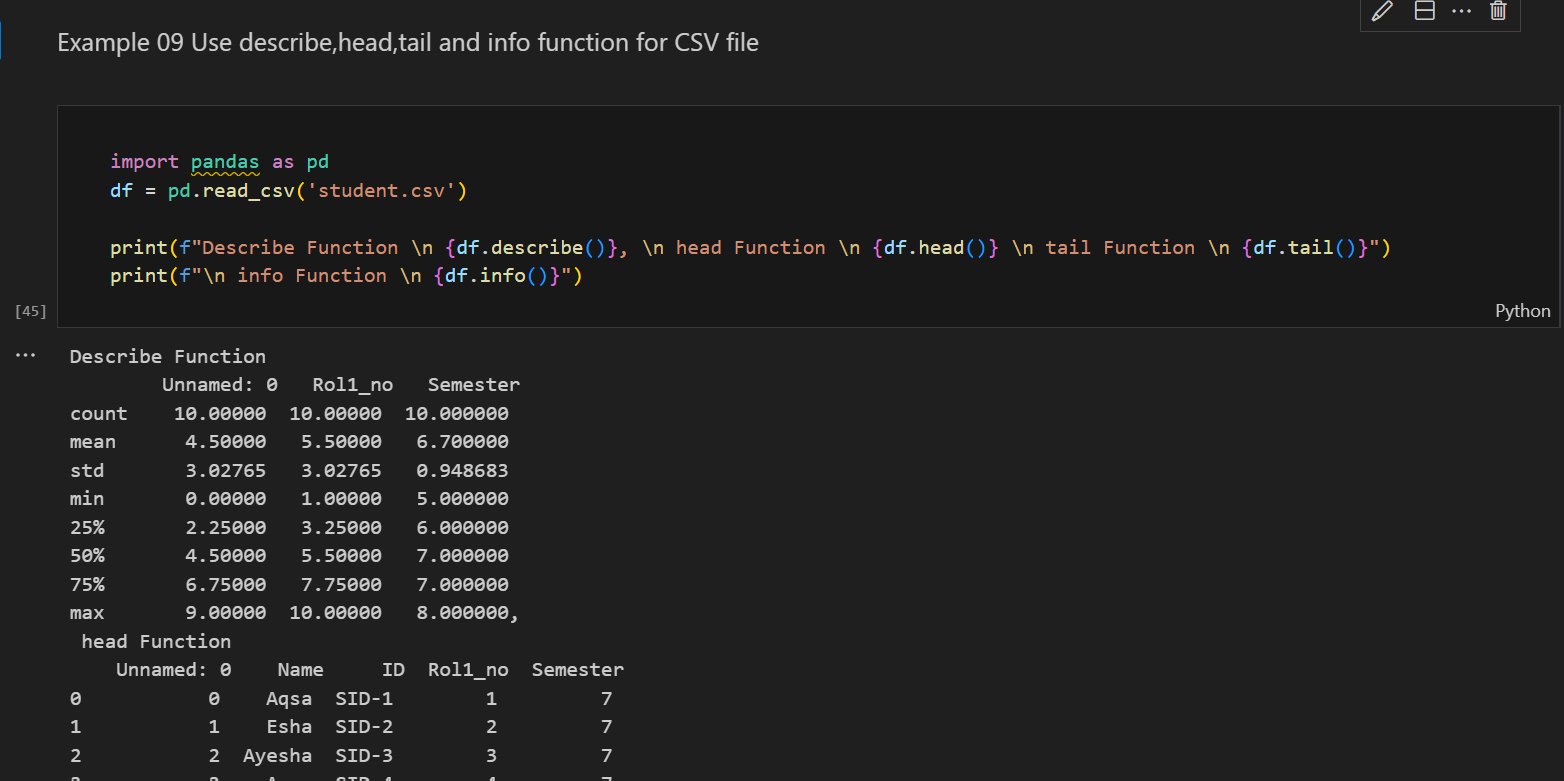
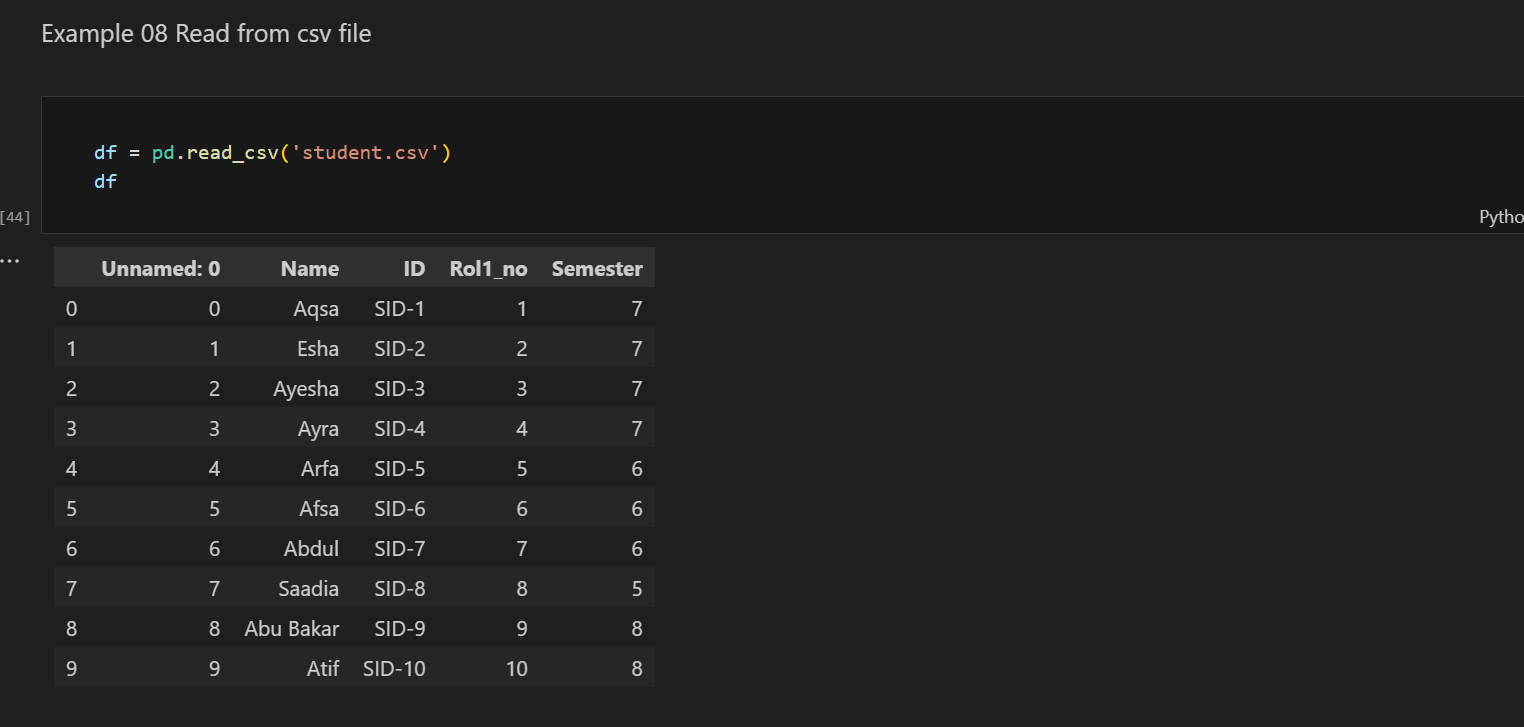
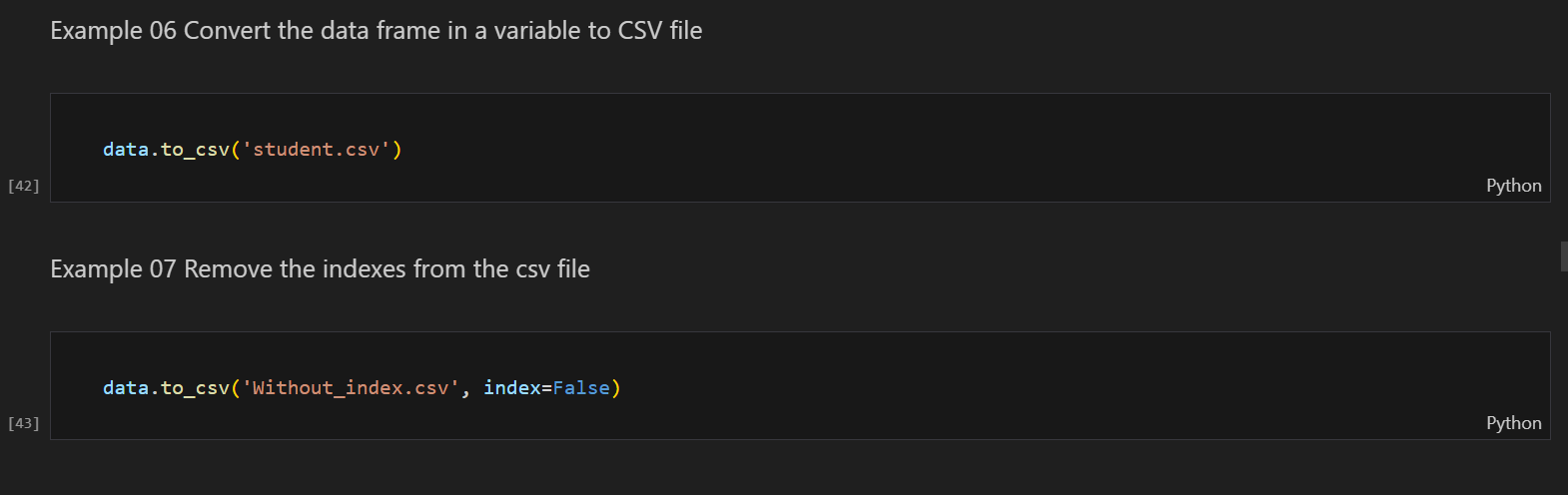
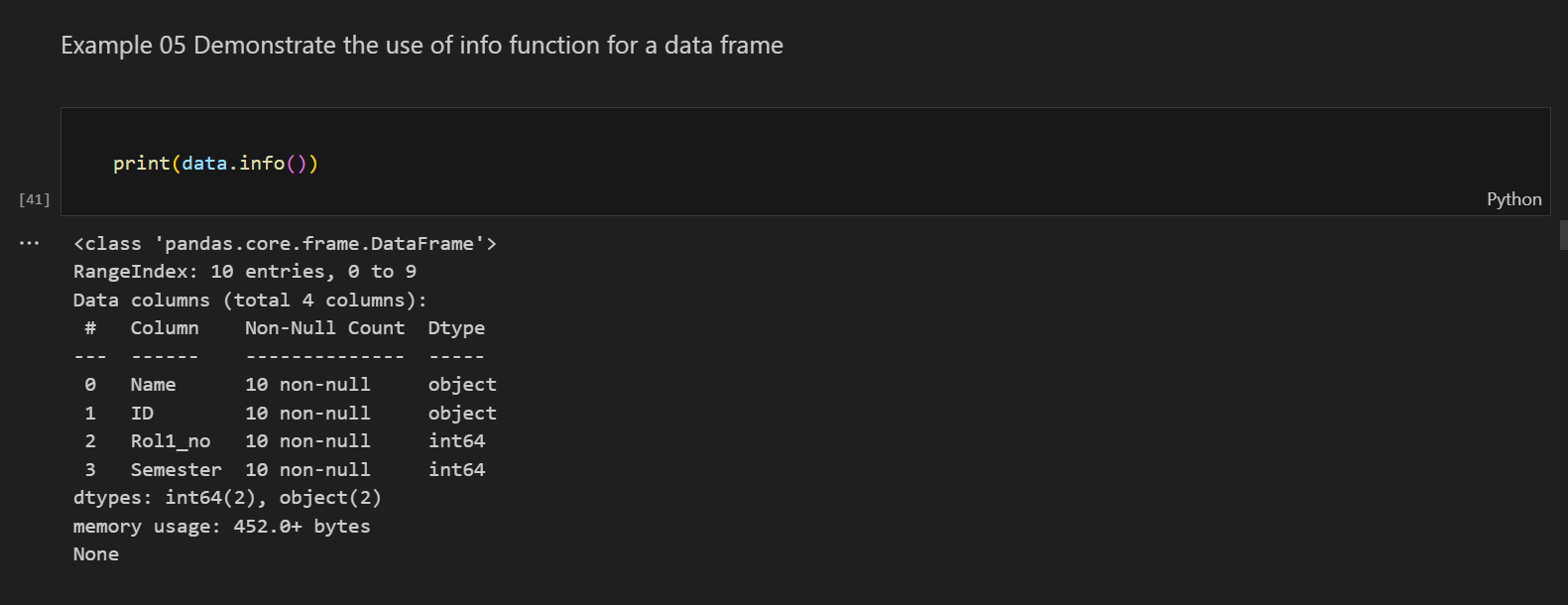
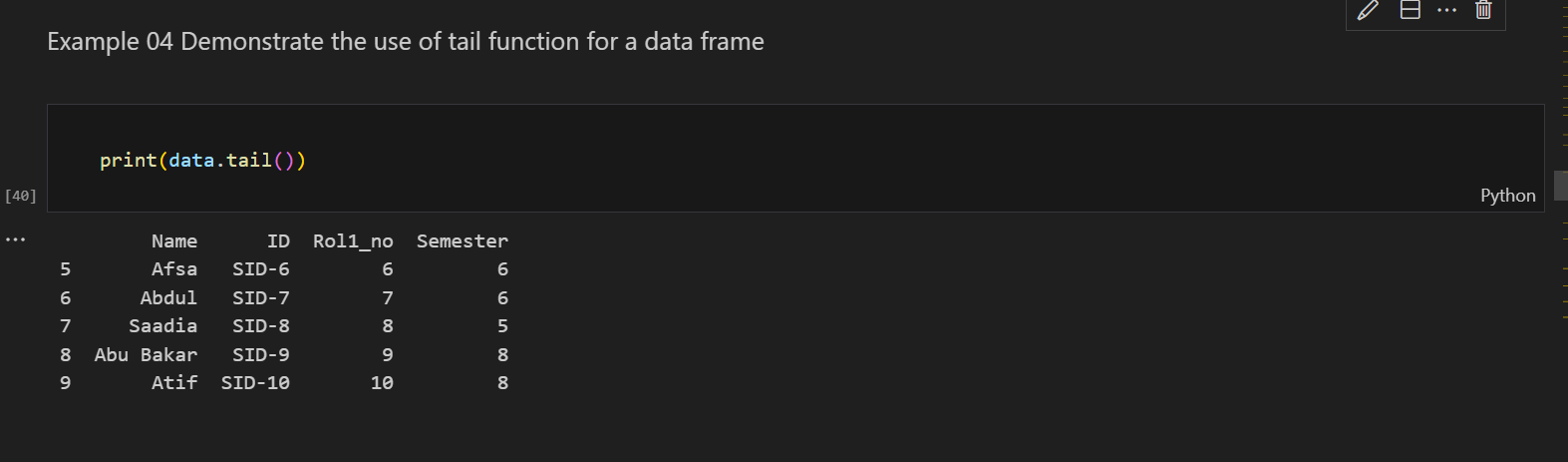
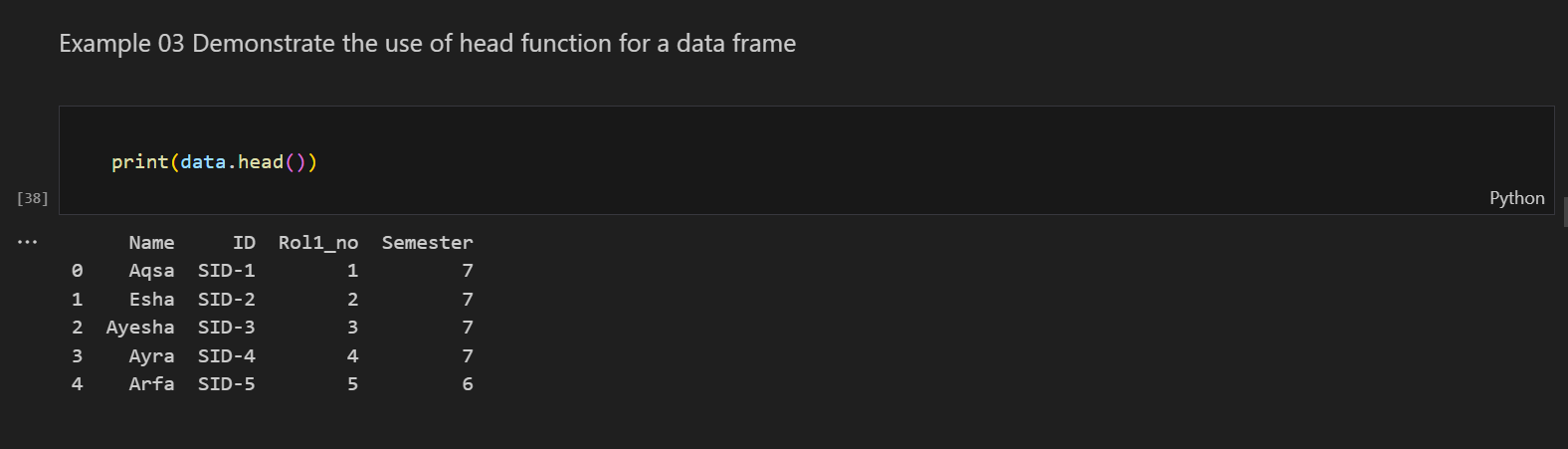
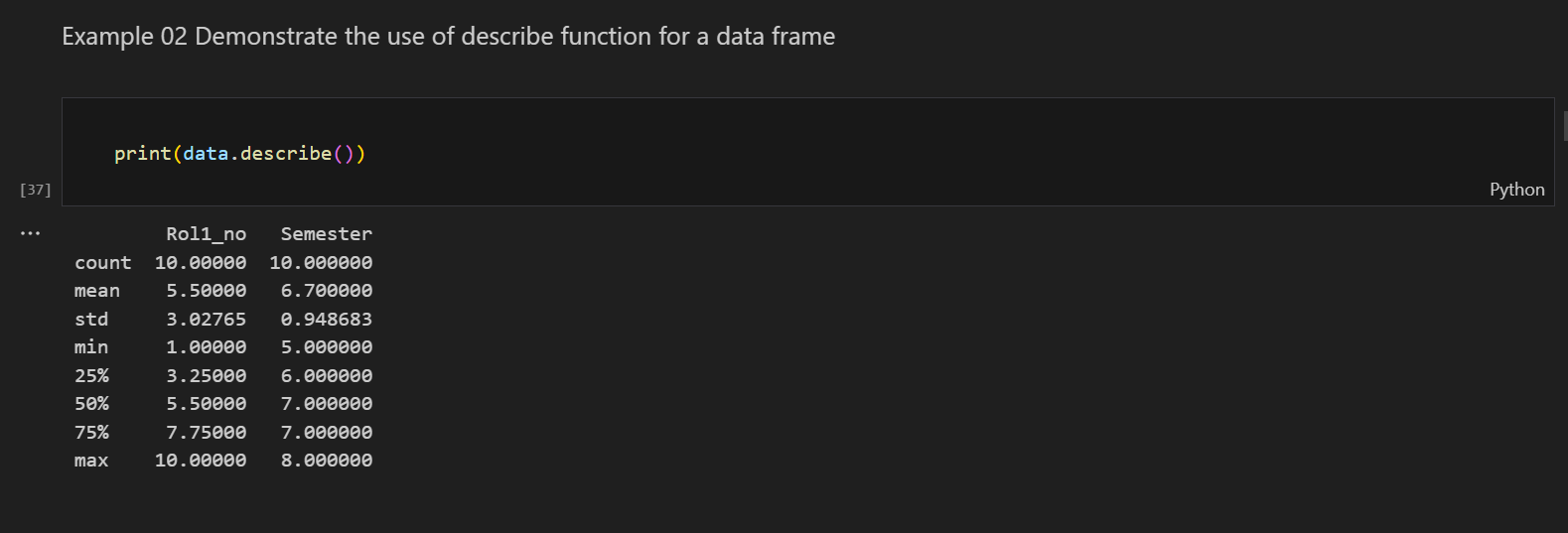
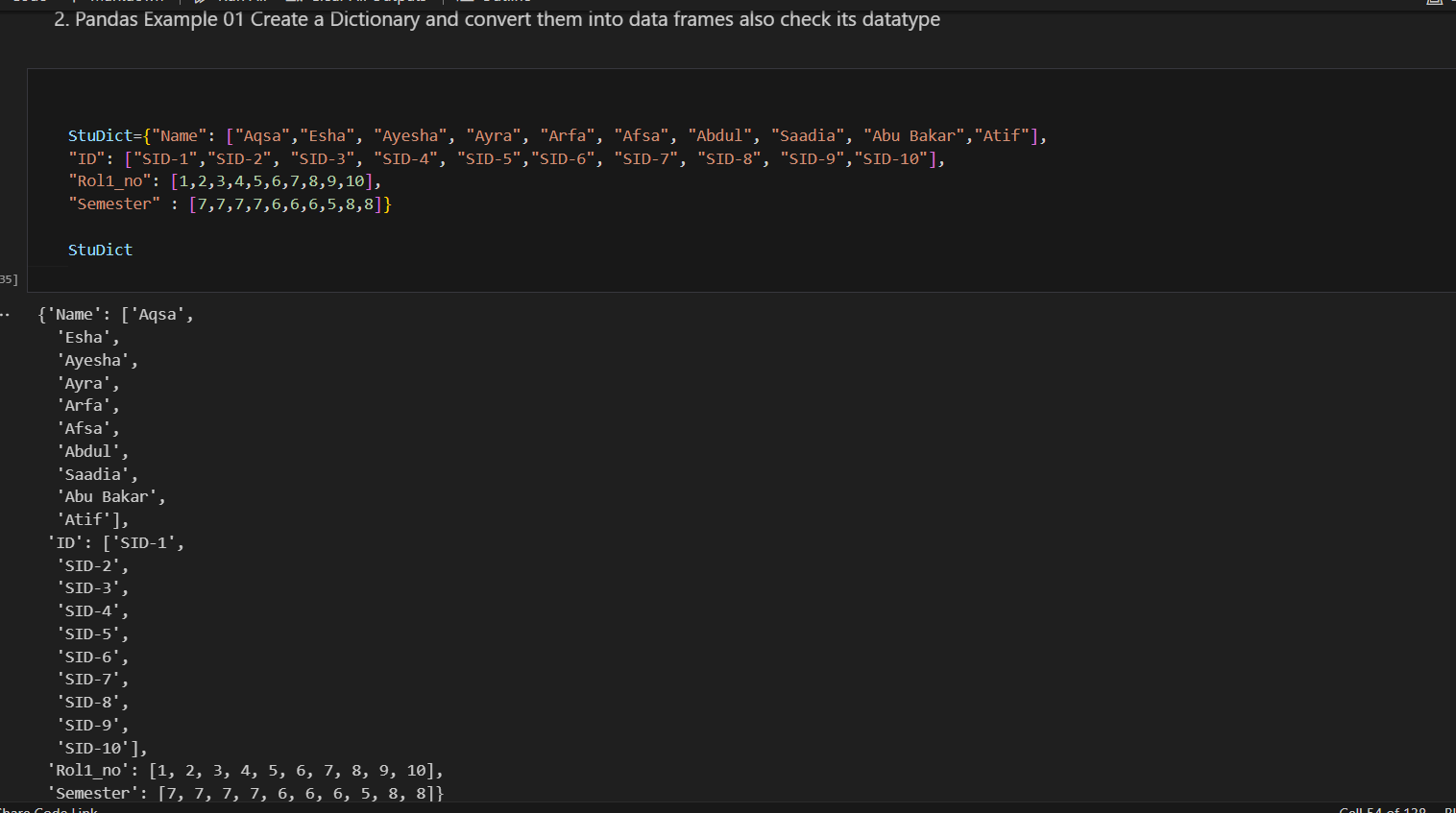
**Lab Task 01**: NumPy is a fundamental tool for AI because it provides the foundation for efficient data handling, mathematical operations, and integration with AI frameworks. Its ability to perform fast, vectorized operations on large datasets makes it indispensable for AI practitioners and researchers.

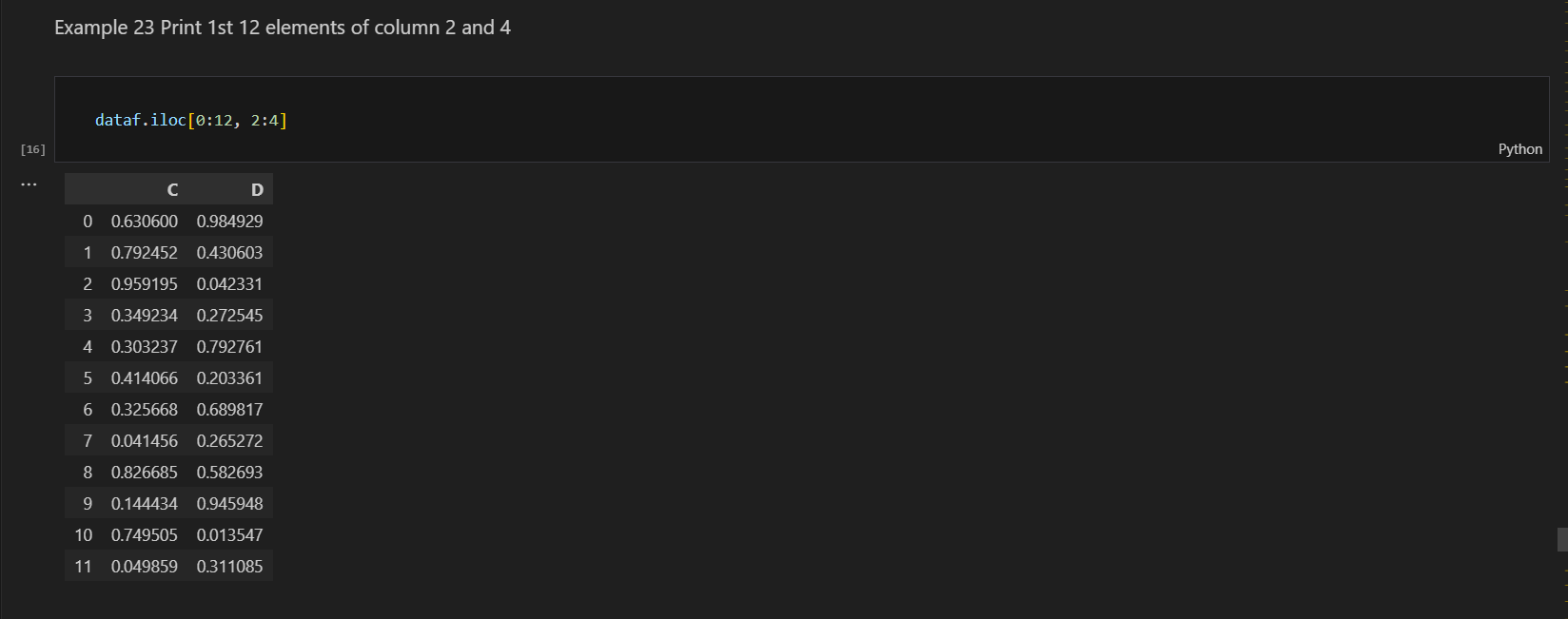
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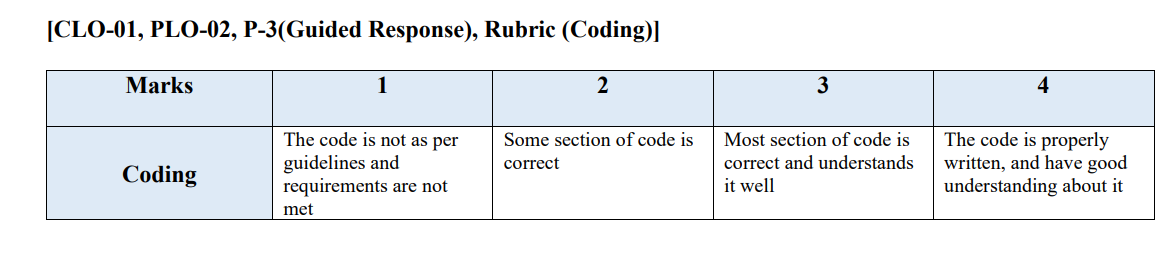
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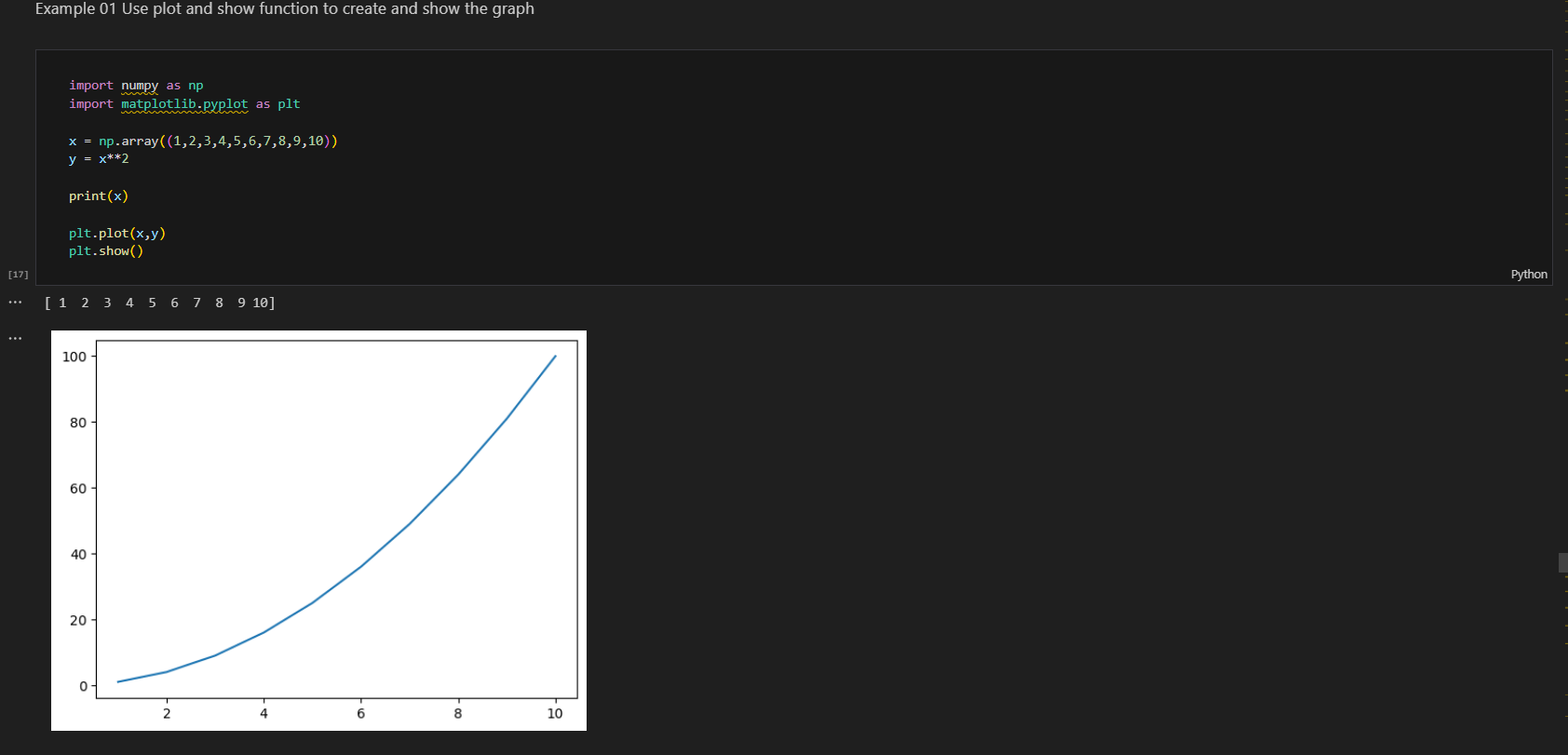
**Lab Task 02:** Pandas plays a pivotal role in AI by facilitating data preparation, exploration, and transformation, which are essential steps in the machine learning pipeline. It empowers data scientists and AI practitioners to efficiently work with structured data and prepare it for training and evaluation of AI models.







**Lab Task 03:** Matplotlib plays a vital role in AI by providing a versatile toolkit for data visualization, model evaluation, debugging, and presenting results. Its ability to create a wide range of plots and its integration with other AI-related libraries make it a valuable tool for AI practitioners and researchers.

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