Istanbul Medipol University

School of Engineering and Natural Sciences

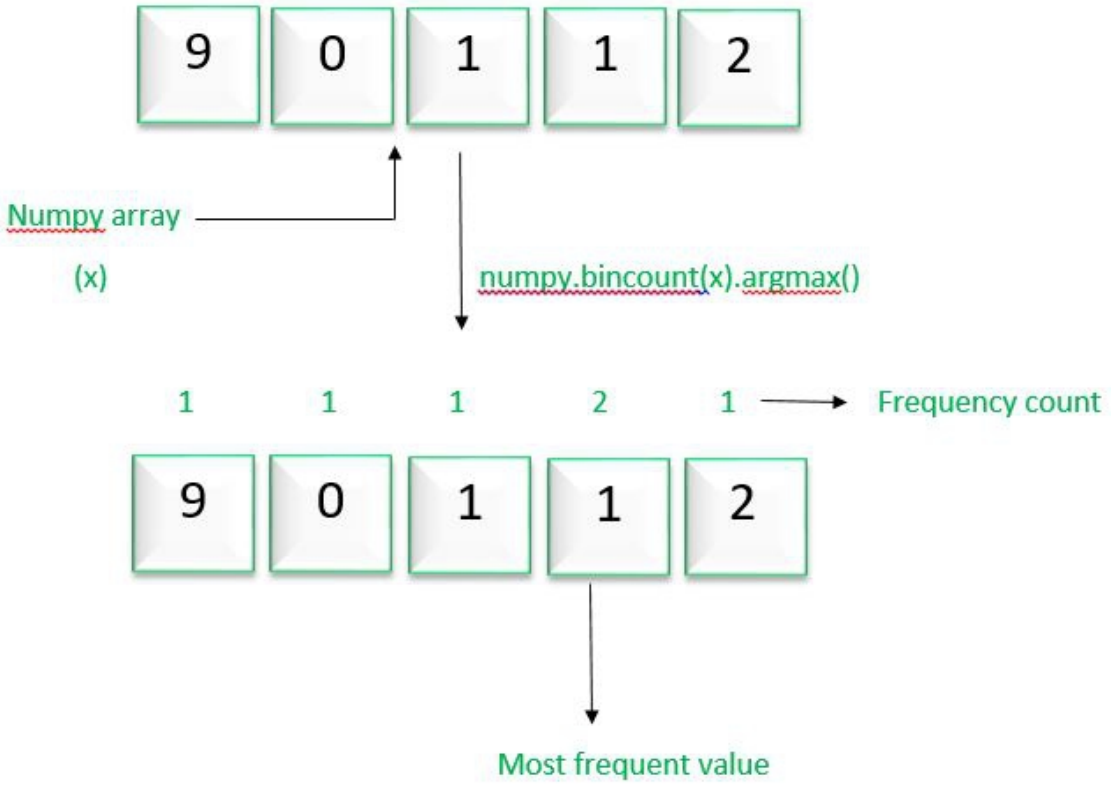
Advanced Programming Laboratory Instructions

- 2 exercises will be held during laboratory sections.
- Second exercise will be done individually and grading will be done according to that performance.
- Exercises will be about the topics which have been held by Prof. Dr. Selim Akyokuş in that week.
- **Submissions after Friday 6:30 PM will not be accepted.**
- **For second exercise, any type of plagiarism is not allowed.**
- Please submit your exercises as YourDept_StudentID_Lab#.py and zip it as YourDept_StudentID_Lab#.zip
- Your codes should have comments. Codes with no comments will not receive full credit.
- For any questions,please contact me via Teams.

Exercise 1

Steps to find the most frequency value in a NumPy array:

- Create a NumPy array.
- Apply bincount() method of NumPy to get the count of occurrences of each element in the array.
- The n, apply argmax() method to get the value having a maximum number of occurrences(frequency).



Exercise 2 (Quiz Question)

Write a program that has following requirements.

- Create a NumPy array which has n number of zeros.
- n number will be taken from user.
- Implement the formula which is given below to the program and get the outputs.

$$\frac{\left(\frac{(1+\sqrt{5})}{2}\right)^{n} - \left(\frac{(1-\sqrt{5})}{2}\right)^{n}}{\sqrt{5}}$$

- Round the outputs with usage of NumPy library.
- Change the elements of zeros array with the aid of given formulas rounded outputs.