

# Exercise 1

1. What is the difference between `np.copy()` and `np.view()` in NumPy?
2. What function in NumPy can be used to reshape an array without changing its data? Provide an example.
3. What is numerical differentiation, and how can it be implemented in NumPy?
4. Write a Python function using NumPy to compute the determinant of a  $3 \times 3$  matrix.
5. Implement a function to calculate the eigenvalues of a given matrix using NumPy.
6. Create a NumPy function to normalize a given array (scale values between 0 and 1).

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