**Assignment 3 - Solution**

Write a NumPy program that creates a 5x5 identity matrix and replaces the diagonal elements with random integers between 0 and 9.

import numpy as np

# create a 5x5 identity matrix

matrix = np.eye(5)

# generate an array of 5 random integers between 0 and 9

random\_numbers = np.random.randint(0, 10, size=(5,))

# replace the diagonal elements of the identity matrix with the random integers

np.fill\_diagonal(matrix, random\_numbers)

# print the modified matrix

print("Modified matrix:\n", matrix)