

Assignment-4**Find the Output**

Q-1 `import numpy as np
arr = np.arange(10, 31, 5)
print(arr.size)`

Q-2 `arr = np.arange(10, 31, 5)
print(arr)
print(arr.shape)`

Q-3 `arr = np.array([[1, 2, 3], [4, 5, 6]])
print("Original Array:\n", arr)
print("Transposed Array:\n", arr.T)`

Q-4 `arr1 = np.array([2, 4, 6, 8])
arr2 = np.array([1, 3, 5, 7])
result = arr1 * arr2 - arr2
print(result)`

Q-5 `arr = np.arange(1, 13).reshape(3, 4)
print("Array:\n", arr)
print("Maximum value in array:", np.max(arr))`

Q-6 `arr = np.array([10, 15, 20, 25, 30])
print("Values greater than 20:", arr[arr > 20])`

Q-7 `arr = np.random.randint(1, 101, size=10)
print("Array:", arr)
print("Mean:", np.mean(arr))
print("Standard Deviation:", np.std(arr))`

Q-8 `arr = np.arange(1, 16).reshape(3, 5)
print("Array:\n", arr)
print("Second row, last three elements:", arr[1, -3:])`

Q-9 `arr = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9]])
print("Array:\n", arr)
print("Sum of diagonal elements:", np.trace(arr))`

Q-10 `arr1 = np.array([1, 2, 3])
arr2 = np.array([4, 5, 6])
dot_product = np.dot(arr1, arr2)
print("Dot Product:", dot_product)`

Q-11 `arr = np.array([[1, 2, 3], [4, 5, 6]])
row_to_add = np.array([10, 20, 30])
result = arr + row_to_add
print("Result:\n", result)`

Q-12 `arr = np.array([[1, 2], [3, 4], [5, 6]])
flattened = arr.flatten()
print("Original Array:\n", arr)
print("Flattened Array:", flattened)`

Q-13 `arr = np.array([10, 15, 20, 25, 30])
new_arr = np.where(arr > 20, 100, arr)
print("Original Array:", arr)
print("Modified Array:", new_arr)`