

Python Masterclass-5 Assignment Answers

Task:

You embark on an exciting array adventure where you'll encounter various challenges related to NumPy arrays and their operations. Your task is to write a Python program that allows you to overcome these challenges and progress in your array adventure.

Answer:

```
import numpy as np

def display_challenges():
    # Display available array challenges to the player
    print("Array Adventure Challenges:")
    print("1. Create and display a NumPy array")
    print("2. Perform basic operations on arrays")
    print("3. Reshape an array")
    print("4. Perform element-wise mathematical operations on arrays")
    print("5. Check if two arrays are equal")
    print("6. Quit")

def create_array():
    # Create and display a NumPy array based on user input
    # Implement the necessary code here

def perform_operations():
    # Perform basic operations on arrays
    # Implement the necessary code here

def reshape_array():
    # Reshape an array and display the reshaped version
    # Implement the necessary code here

def perform_elementwise_operations():
    # Perform element-wise mathematical operations on arrays
    # Implement the necessary code here

def check_array_equality():
    # Check if two arrays are equal or not
```

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```
# Implement the necessary code here

# Main program loop
while True:
    print("\n-- Array Adventure --")
    display_challenges()
    choice = input("Enter your choice (1-6): ")
    if choice == '1':
        create_array()
        # Provide feedback and rewards for completing the challenge
    elif choice == '2':
        perform_operations()
        # Provide feedback and rewards for completing the challenge
    elif choice == '3':
        reshape_array()
        # Provide feedback and rewards for completing the challenge
    elif choice == '4':
        perform_elementwise_operations()
        # Provide feedback and rewards for completing the challenge
    elif choice == '5':
        check_array_equality()
        # Provide feedback and rewards for completing the challenge
    elif choice == '6':
        print("Quitting the Array Adventure. Goodbye!")
        break
    else:
        print("Invalid choice. Please try again.")
```