

A screenshot of the Visual Studio Code (VS Code) interface. The left sidebar shows a file tree with a single file named 'grp7_tiqui_ex7.py'. The main editor area contains the following Python code:

```
# Exercise 7
# 1. Write a Python program to create an array of 3 integers and display the array items.
import array
my_array = array.array('i', [5, 10, 15])
for element in my_array:
    print(element)

# 2. Write a Python program to append a new item to the end of the array.
import array
my_array = array.array('i', [2, 4, 6, 8, 9])
print("Original array:", my_array)
```

The terminal tab at the bottom shows the output of running the script:

```
PS C:\Python> & c:/Users/18kgo/AppData/Local/Programs/Python/Python312/python.exe c:/Python/grp7_tiqui_ex7.py
5
10
15
Original array: array('i', [2, 4, 6, 8, 9])
Append 11 at the end of the array:
New array: array('i', [2, 4, 6, 8, 9, 11])
Original array: array('i', [19, 22, 28, 29, 5, 1, 14, 2])
Reverse the order of the items:
array('i', [2, 14, 1, 5, 29, 28, 22, 19])
False
True
True
```

A screenshot of the Visual Studio Code (VS Code) interface. The left sidebar shows a file tree with a single file named 'grp7_tiqui_ex7.py'. The main editor area contains the following Python code:

```
# 3. Write a Python program to reverse the order of the items in the array.
import array
my_array = array.array('i', [19, 22, 28, 29, 5, 1, 14, 2])
print("Original array:", my_array)
my_array.reverse()
print("Reverse the order of the items:")
print(my_array)

# 4. Write a Python program to find out if a given array of integers contains any duplicate elements.
def check_duplicates(array):
    PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

The terminal tab at the bottom shows the output of running the script:

```
PS C:\Python> & c:/Users/18kgo/AppData/Local/Programs/Python/Python312/python.exe c:/Python/grp7_tiqui_ex7.py
5
10
15
Original array: array('i', [2, 4, 6, 8, 9])
Append 11 at the end of the array:
New array: array('i', [2, 4, 6, 8, 9, 11])
Original array: array('i', [19, 22, 28, 29, 5, 1, 14, 2])
Reverse the order of the items:
array('i', [2, 14, 1, 5, 29, 28, 22, 19])
False
True
True
```

The screenshot shows a Visual Studio Code interface with a dark theme. The left sidebar has icons for file operations, search, and other development tools. The main editor window displays a Python script named `grp7_tiqui_ex7.py`. The code performs three tasks:

```
# 2. Write a Python program to append a new item to the end of the array.  
import array  
my_array = array.array('i', [2, 4, 6, 8, 9])  
print("Original array:", my_array)  
new_item = 11  
my_array.append(new_item)  
print("Append", new_item, "at the end of the array:")  
print("New array:", my_array)  
  
# 3. Write a Python program to reverse the order of the items in the array.  
import array  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

The terminal tab at the bottom shows the output of running the script:

```
PS C:\Python> & C:/Users/18kgo/AppData/Local/Programs/Python/Python312/python.exe c:/Python/grp7_tiqui_ex7.py  
5  
10  
15  
Original array: array('i', [2, 4, 6, 8, 9])  
Append 11 at the end of the array:  
New array: array('i', [2, 4, 6, 8, 9, 11])  
Original array: array('i', [19, 22, 28, 29, 5, 1, 14, 2])  
Reverse the order of the items:  
array('i', [2, 14, 1, 5, 29, 28, 22, 19])  
False  
True  
True
```

The status bar at the bottom right indicates the date and time: 2/27/2024, 11:50 PM.

This screenshot shows the same Visual Studio Code interface with a different Python script open:

```
# 4. Write a Python program to find out if a given array of integers contains any duplicate elements.  
def check_duplicates(array):  
    return len(array) != len(set(array))  
  
print(check_duplicates([1, 2, 3, 4]))  
print(check_duplicates([1, 2, 3, 4, 4]))  
print(check_duplicates([1, 1, 2, 2, 3, 3, 4, 4]))  
  
# 5. Write a Python program to find the first duplicate element in a given array of integers.  
def find_first_duplicate(array):  
    array_set = set()  
    for array in array:  
        if array in array_set:  
            return array  
    PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

The terminal output shows the results of the script execution:

```
Original array: array('i', [2, 4, 6, 8, 9])  
Append 11 at the end of the array:  
New array: array('i', [2, 4, 6, 8, 9, 11])  
Original array: array('i', [19, 22, 28, 29, 5, 1, 14, 2])  
Reverse the order of the items:  
array('i', [2, 14, 1, 5, 29, 28, 22, 19])  
False  
True  
True  
4  
-1  
1  
PS C:\Python>
```

The status bar at the bottom right indicates the date and time: 2/27/2024, 11:51 PM.

```
grp7_tiqui_ex7.py
# 5. Write a Python program to find the first duplicate element in a given array of integers.
def find_first_duplicate(array):
    array_set = set()
    for array in array:
        if array in array_set:
            return array
        array_set.add(array)
    return -1

print(find_first_duplicate([1, 2, 3, 4, 4, 5]))
print(find_first_duplicate([1, 2, 3, 4, 5]))
print(find_first_duplicate([1, 1, 2, 3, 4, 5]))
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Original array: array('i', [2, 4, 6, 8, 9])
Append 11 at the end of the array:
New array: array('i', [2, 4, 6, 8, 9, 11])
Original array: array('i', [19, 22, 28, 29, 5, 1, 14, 2])
Reverse the order of the items:
array('i', [2, 14, 1, 5, 29, 28, 22, 19])
False
True
True
4
-1
1
PS C:\Python>

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