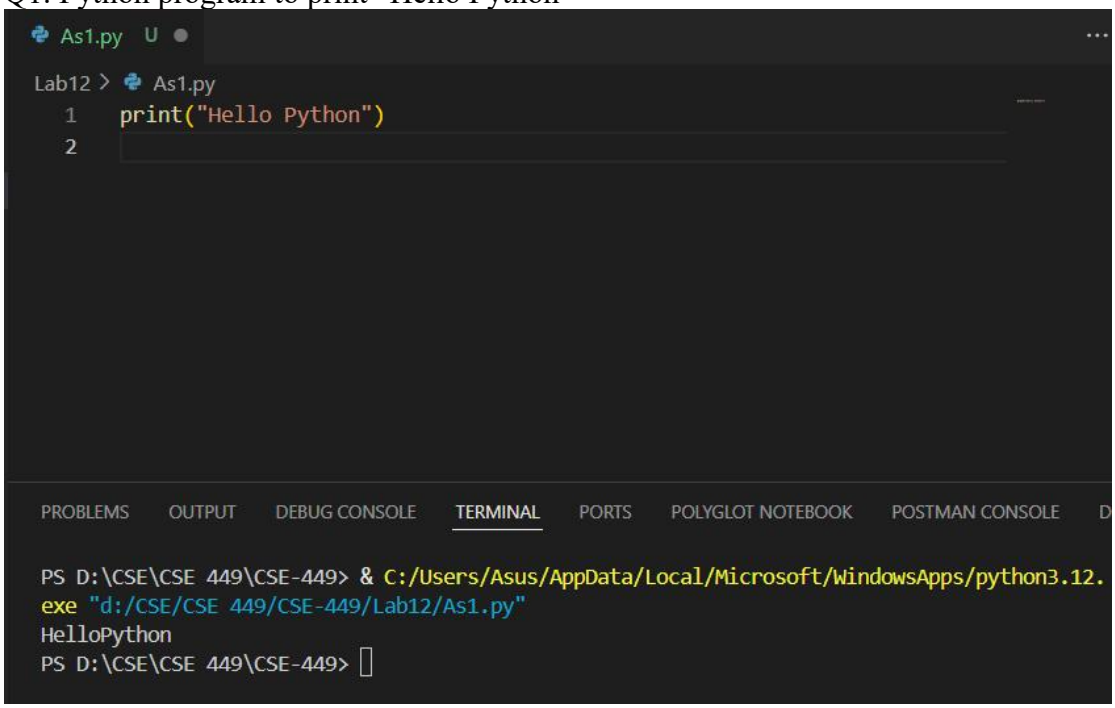
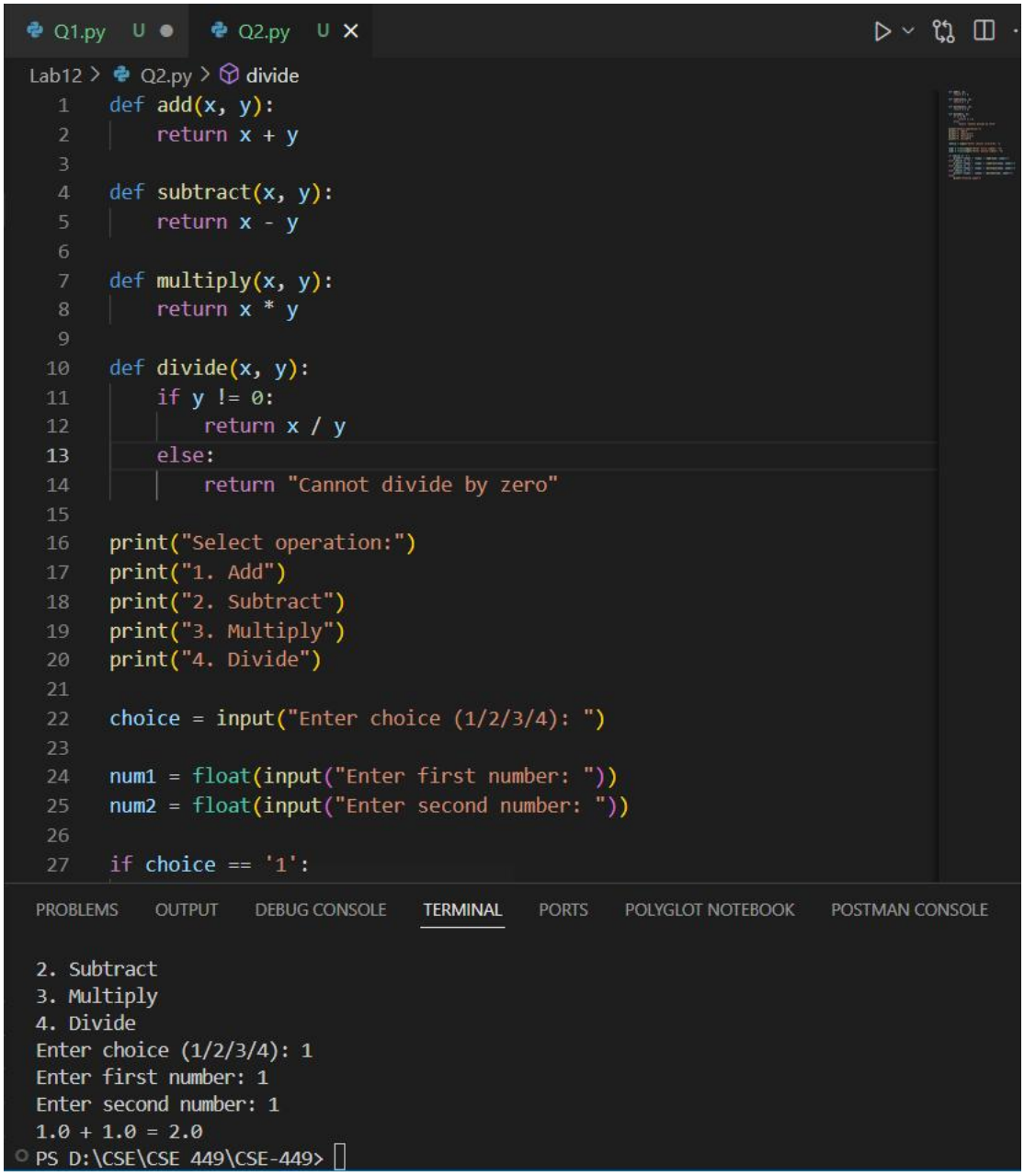
Name : Nguyen Huu Hao
Student ID: 2031200078

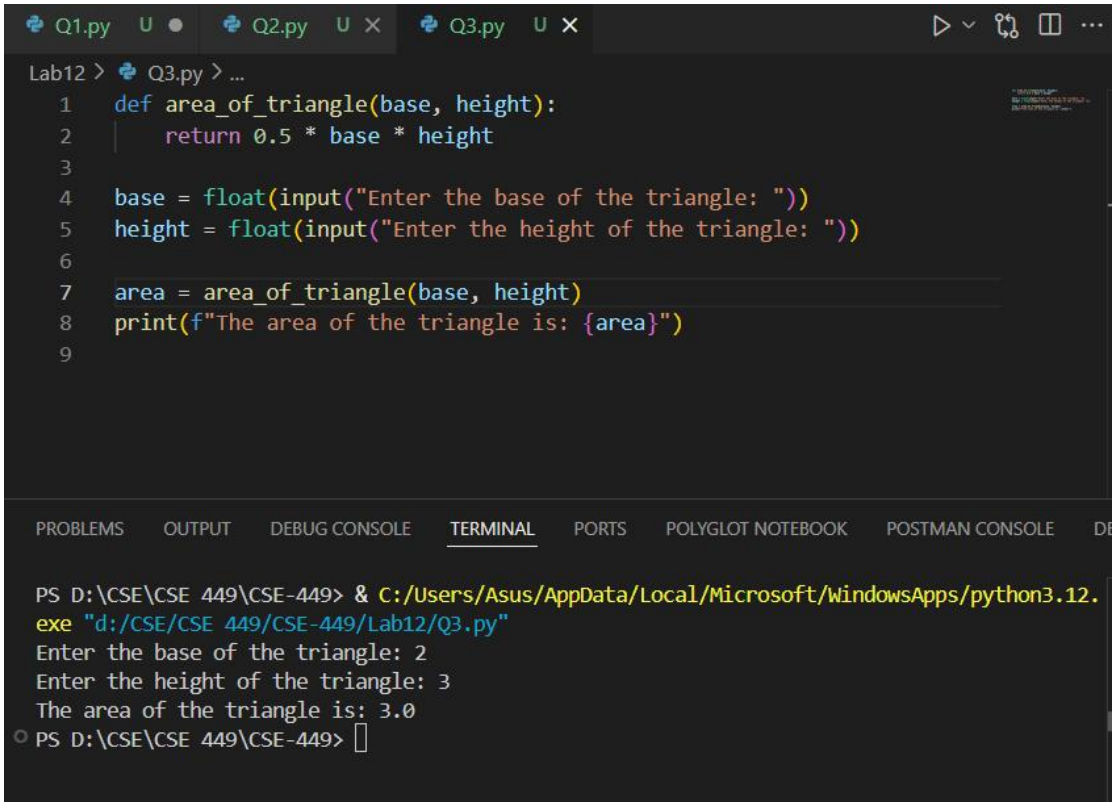
Q1. Python program to print “Hello Python”



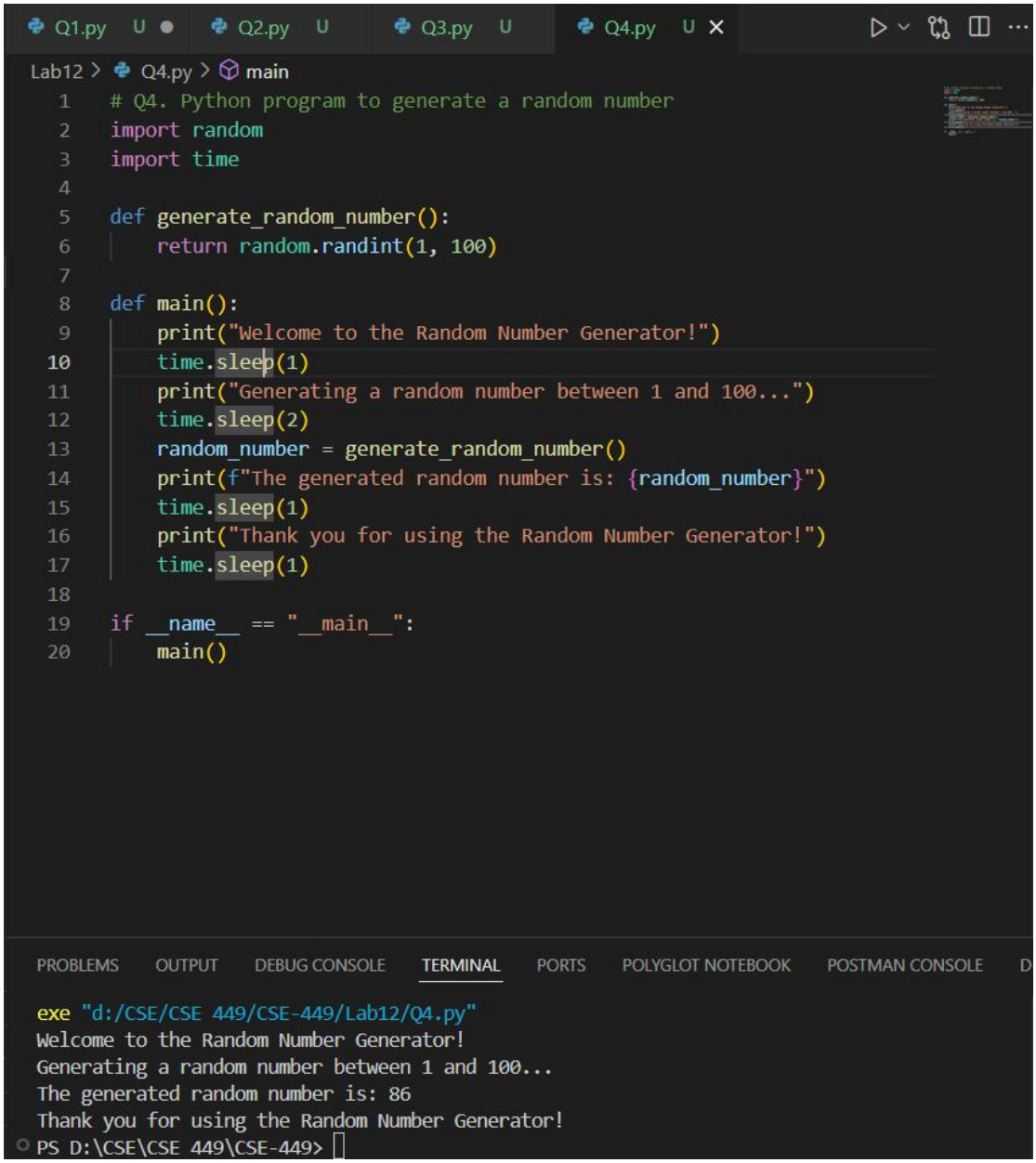
Q2. Python program to do arithmetical operations



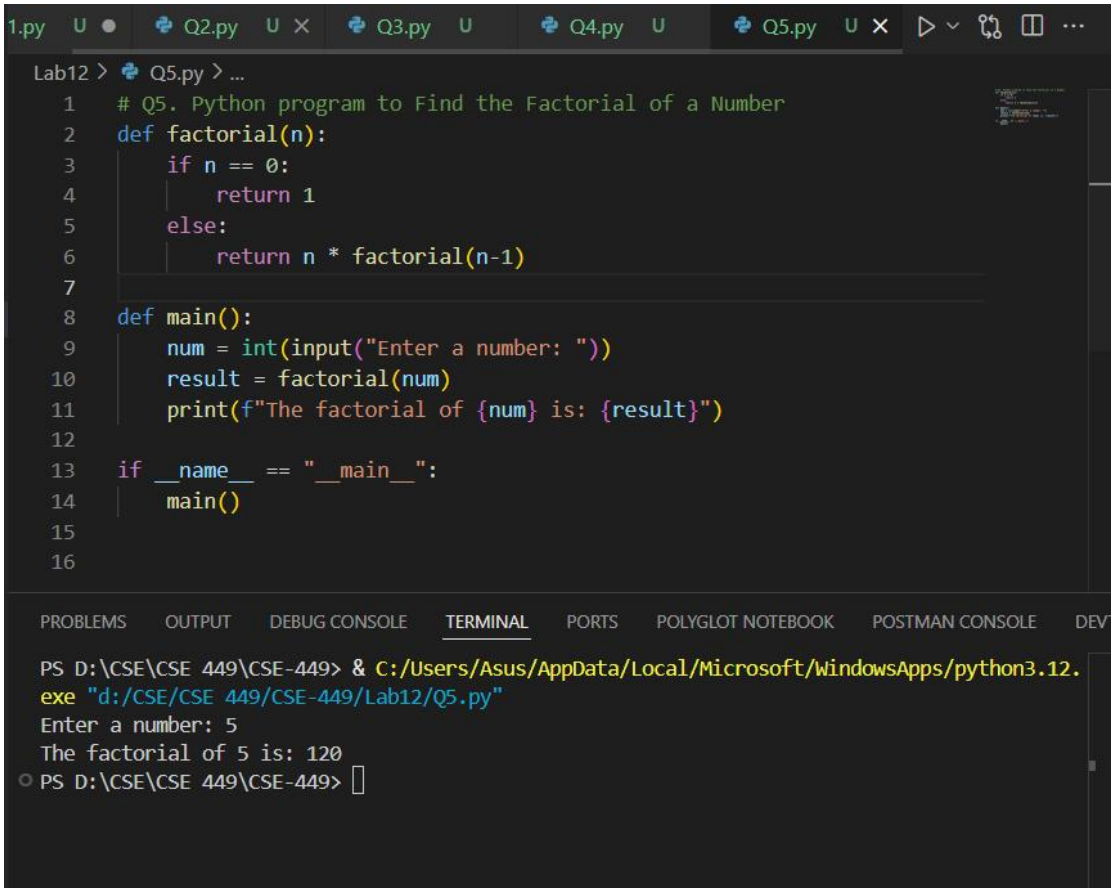
Q3. Python program to find the area of a triangle



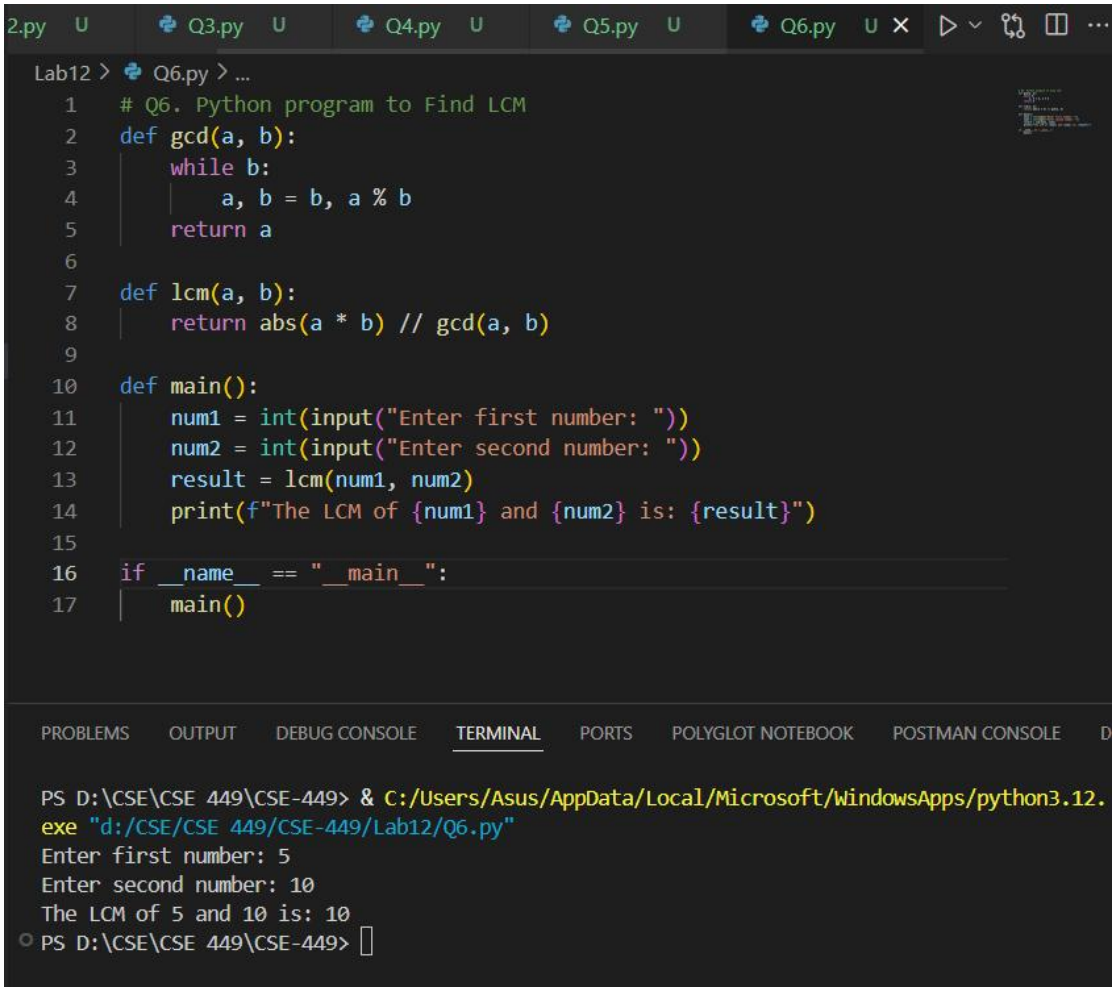
Q4. Python program to generate a random number



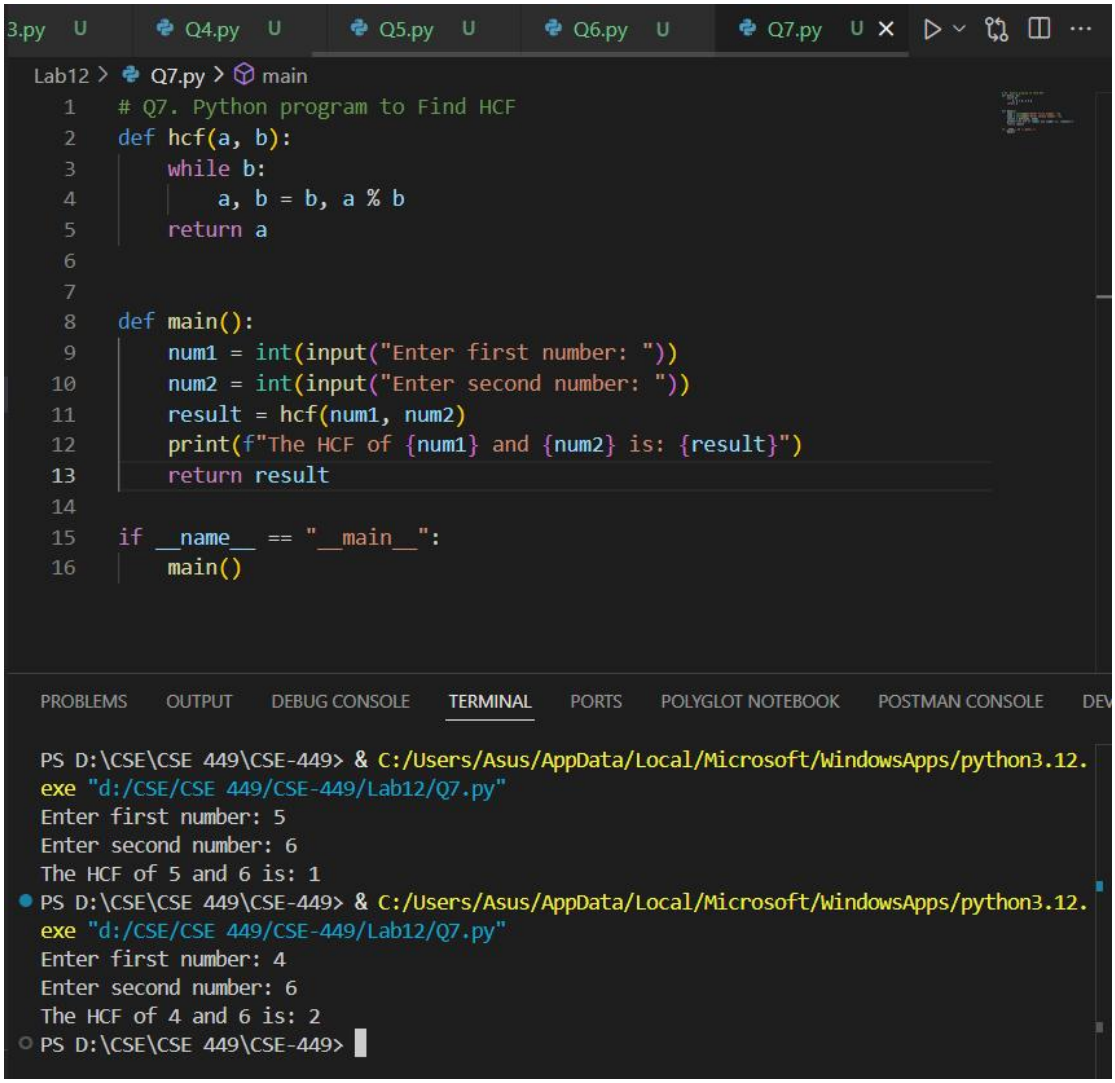
Q5. Python program to Find the Factorial of a Number



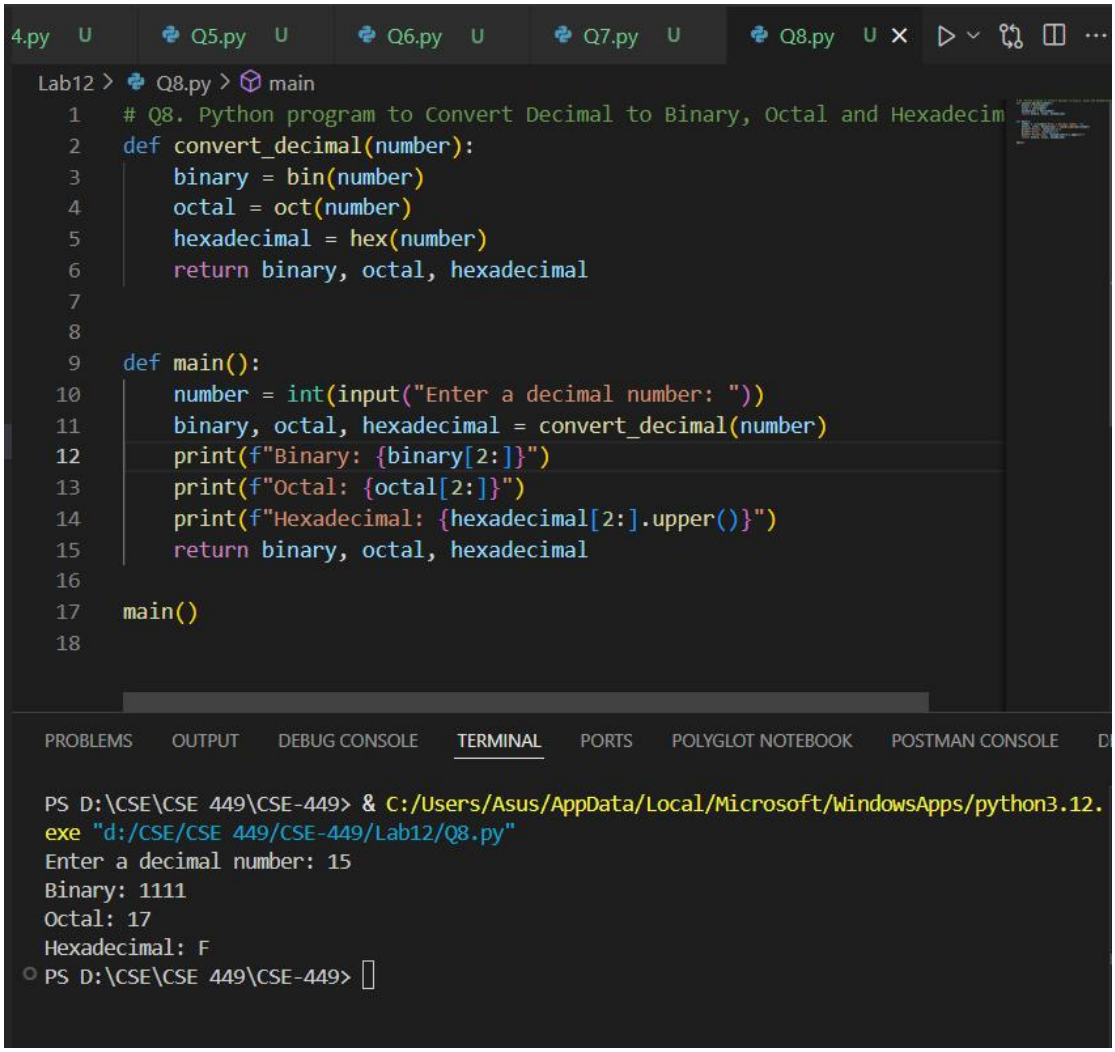
Q6. Python program to Find LCM



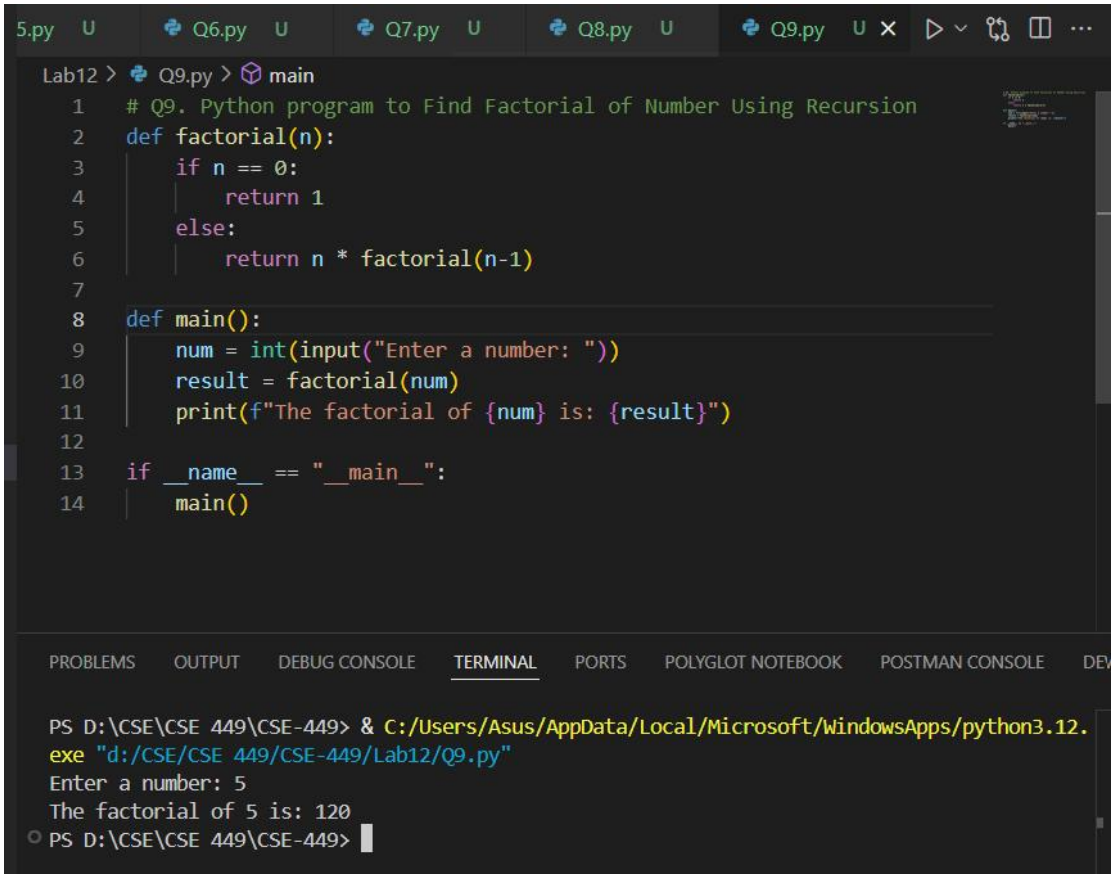
Q7. Python program to Find HCF



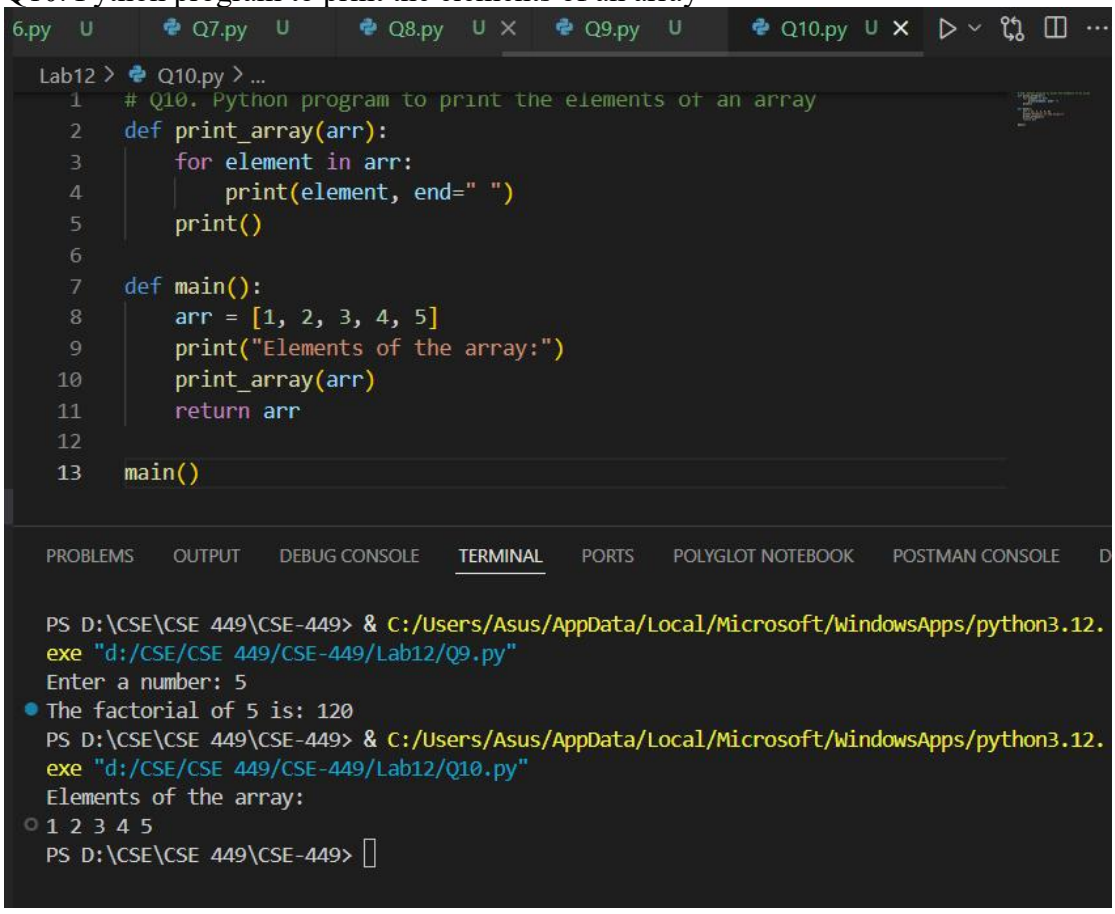
Q8. Python program to Convert Decimal to Binary, Octal and Hexadecimal



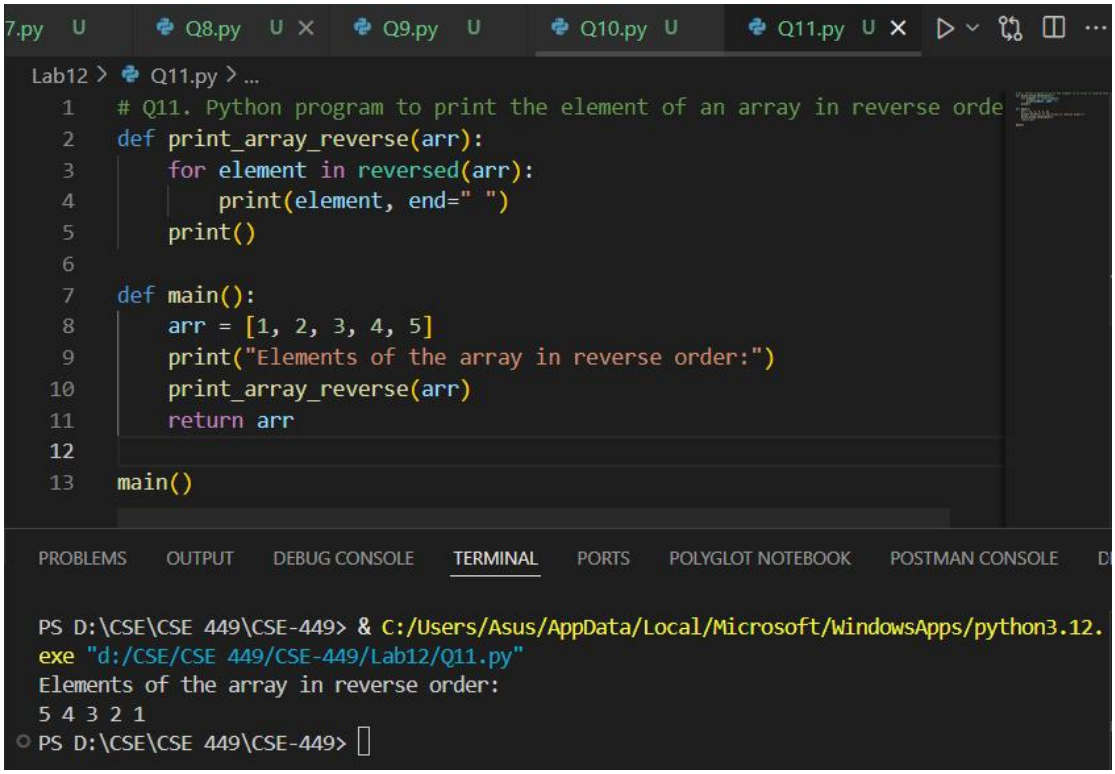
Q9. Python program to Find Factorial of Number Using Recursion



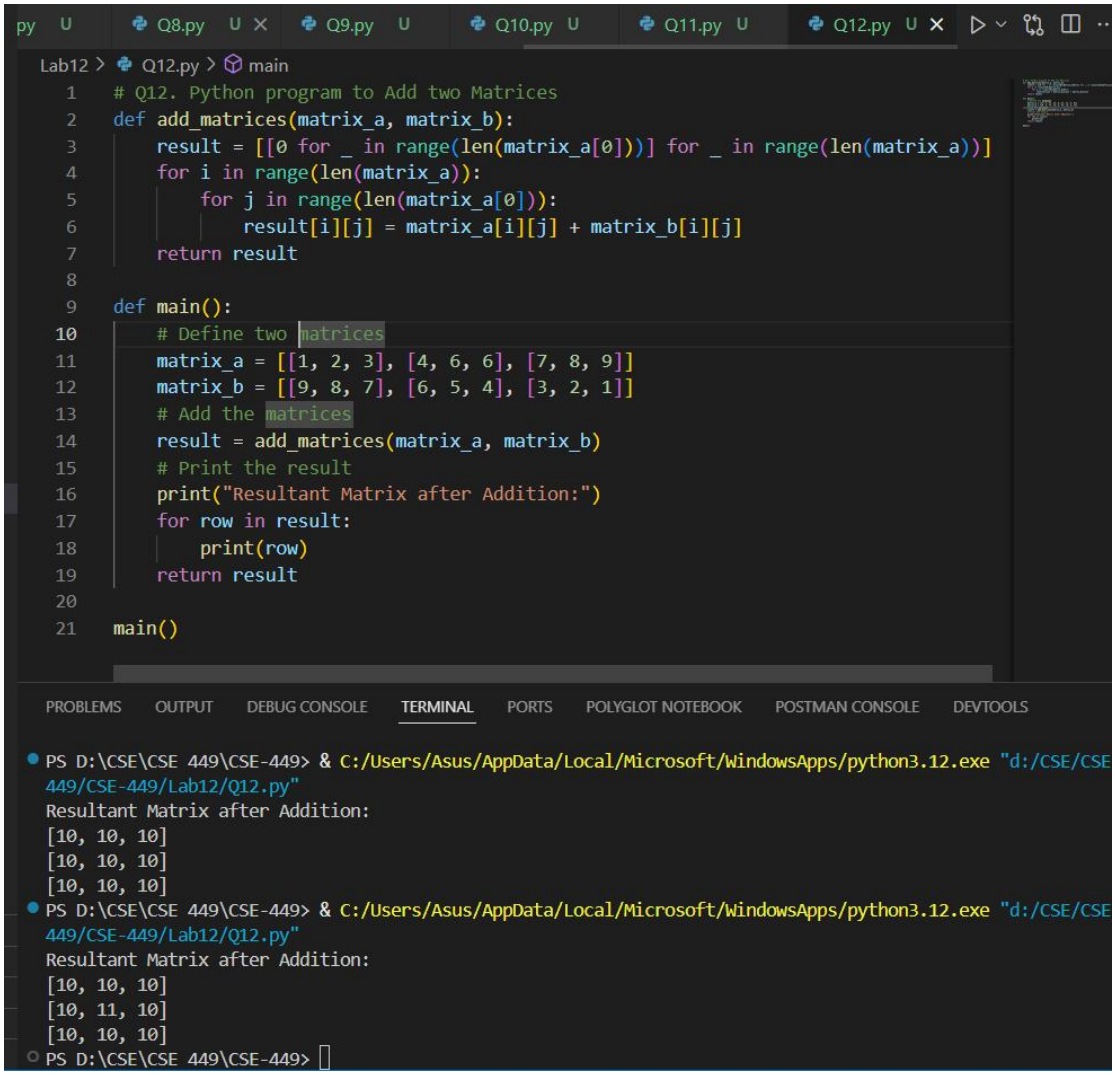
Q10. Python program to print the elements of an array



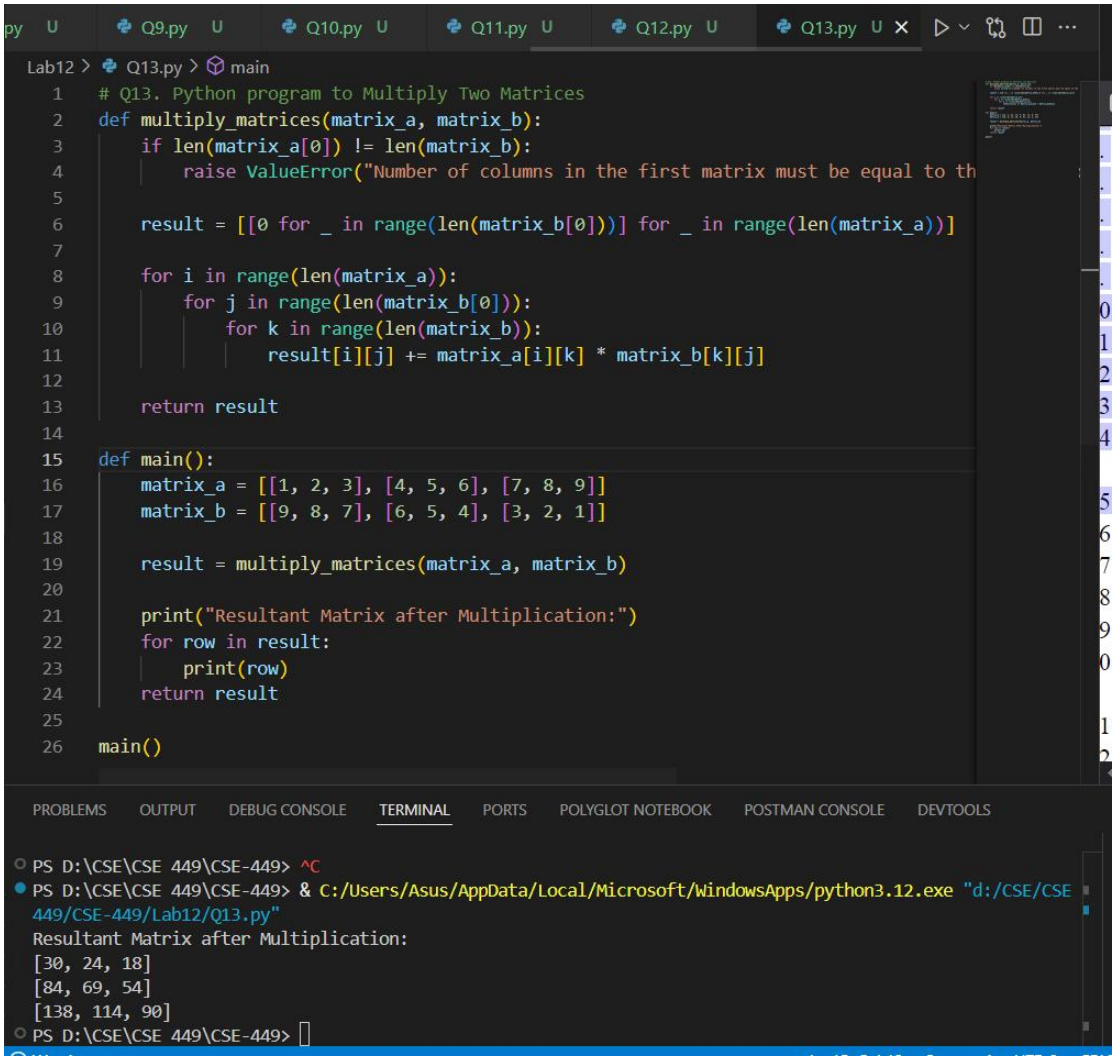
Q11. Python program to print the element of an array in reverse order



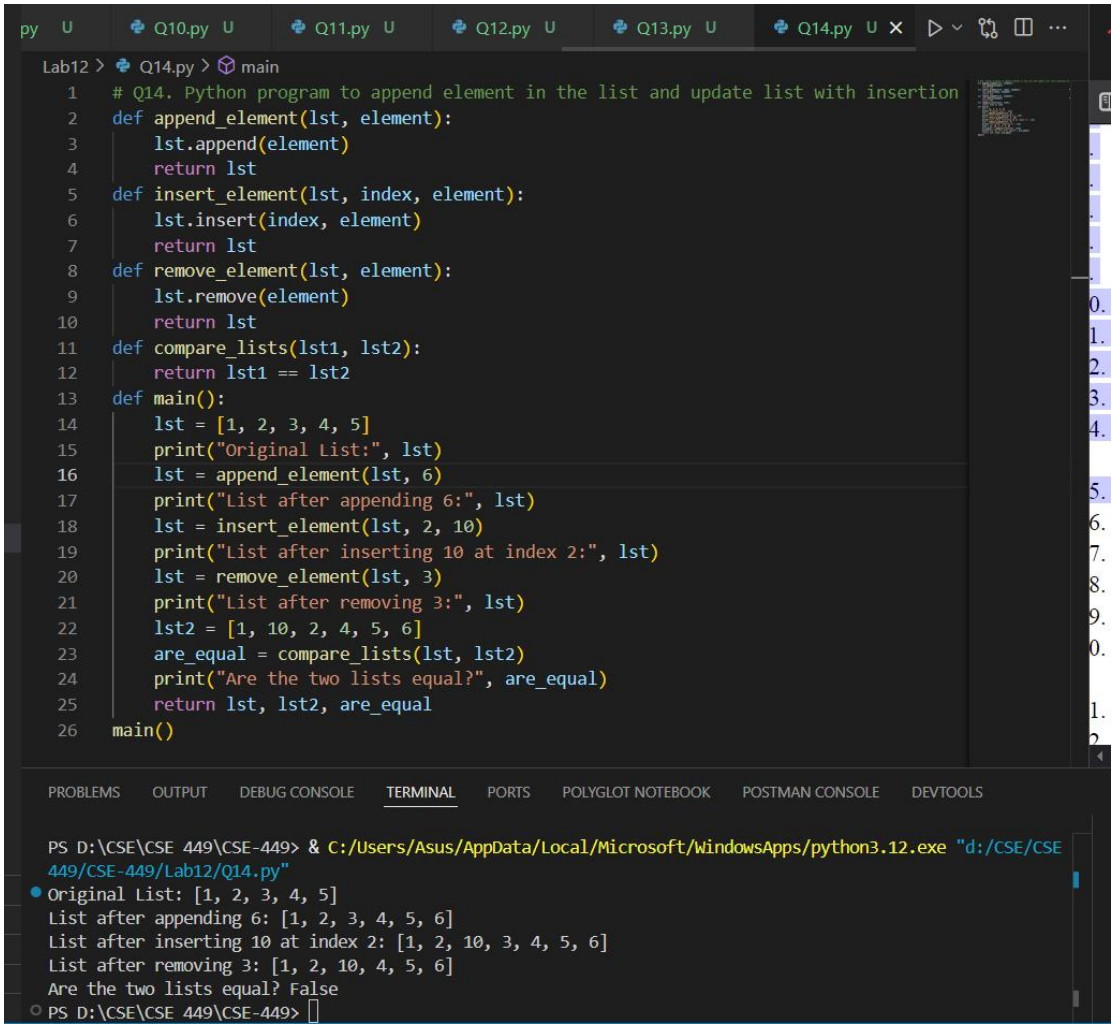
Q12. Python program to Add two Matrices



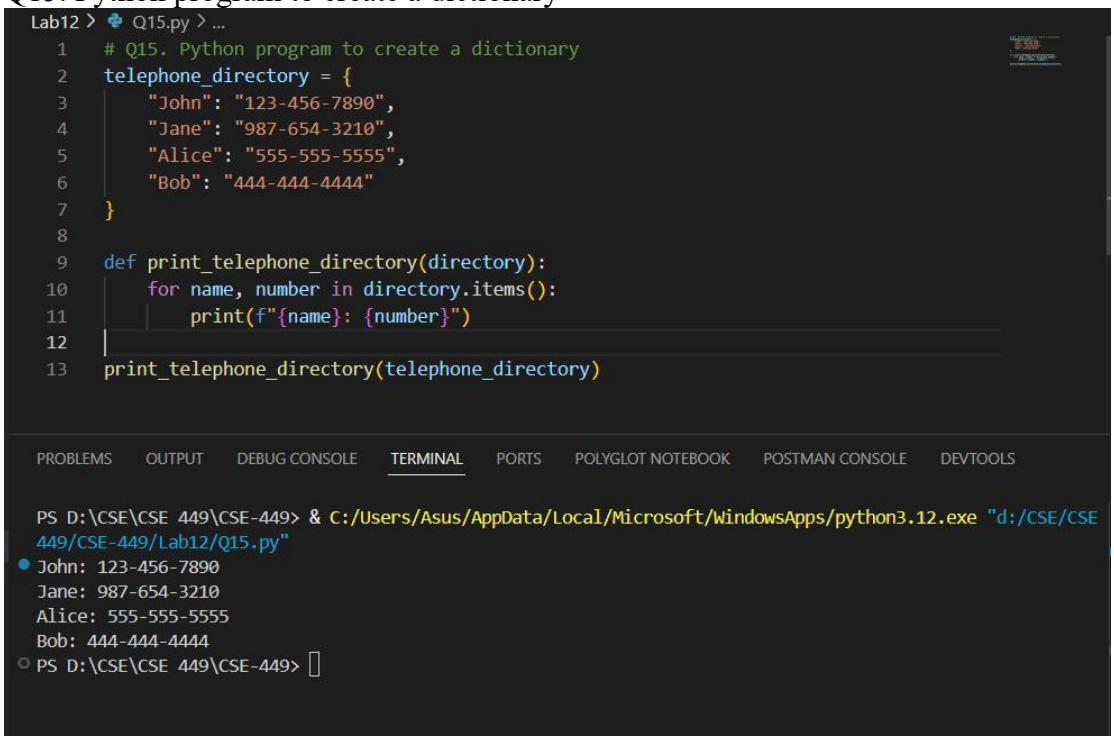
Q13. Python program to Multiply Two Matrices



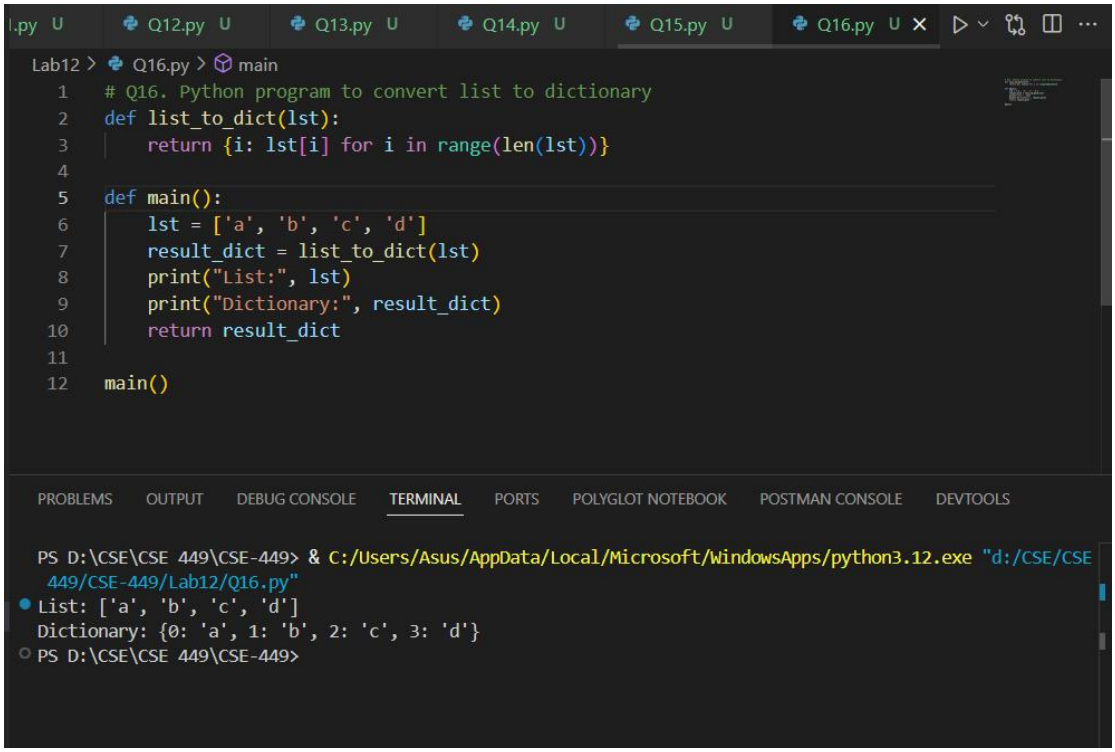
Q14. Python program to append element in the list and update list with insertion of elements, removing an element, comparison of two lists, etc



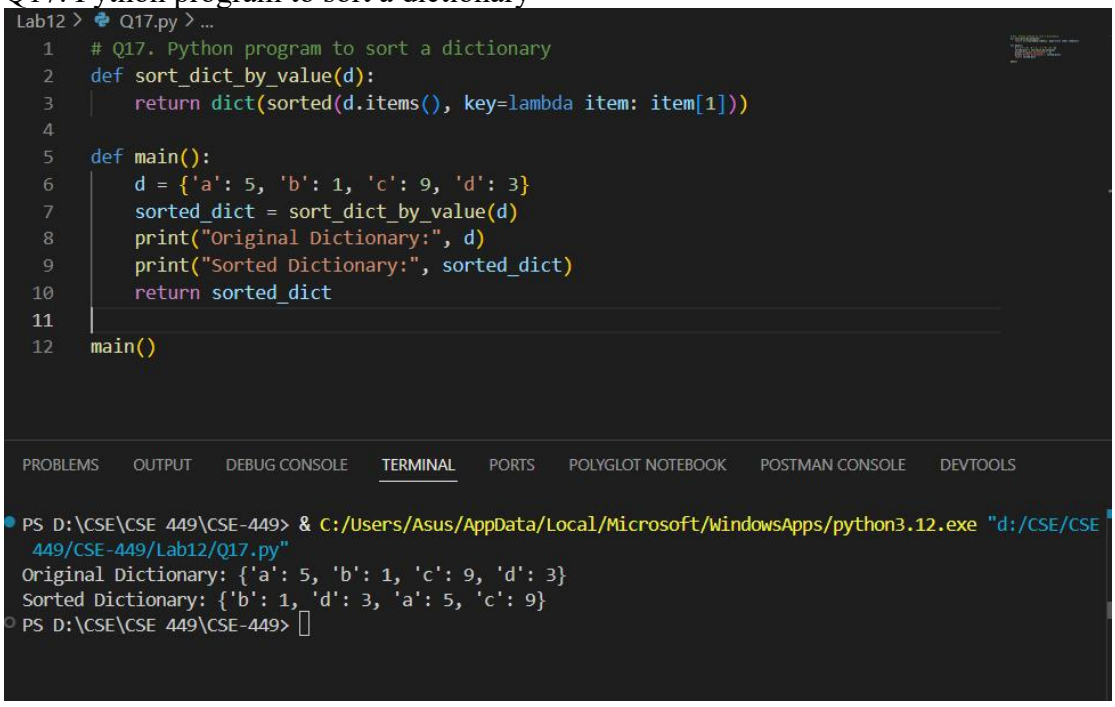
Q15. Python program to create a dictionary



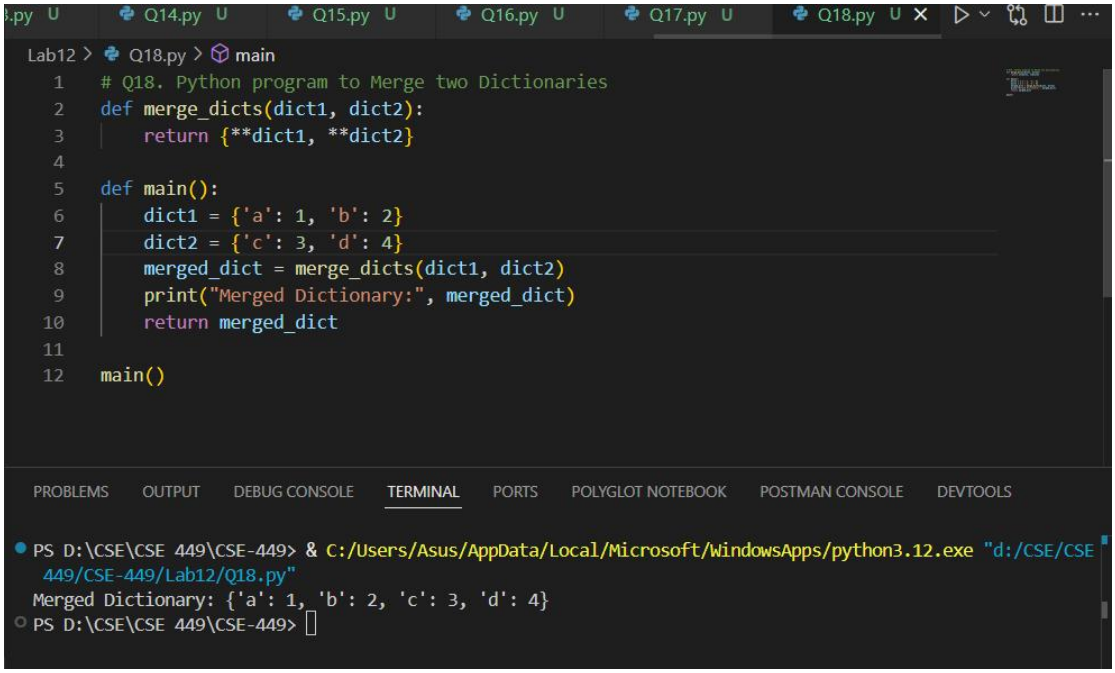
Q16. Python program to convert list to dictionary



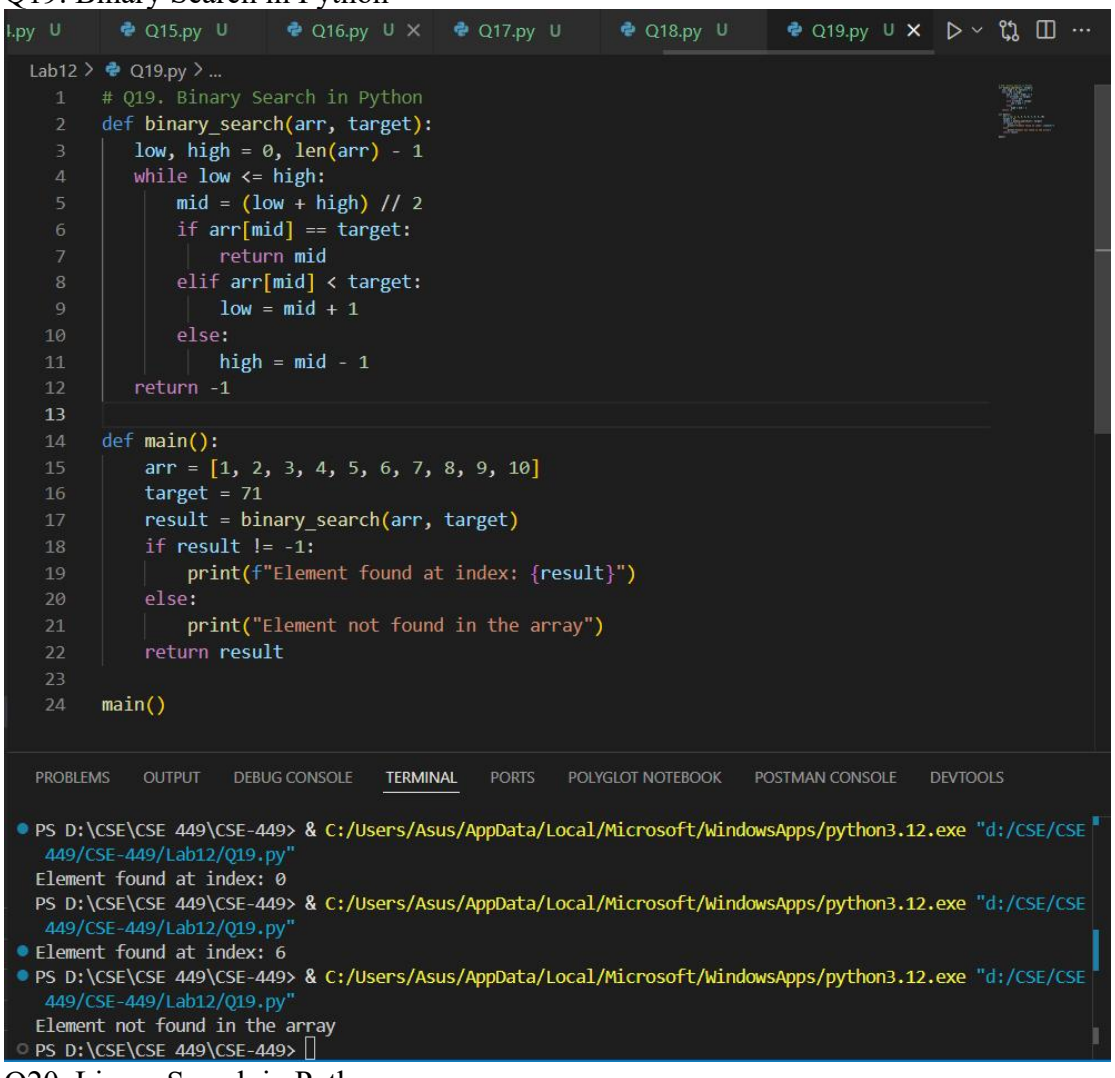
Q17. Python program to sort a dictionary



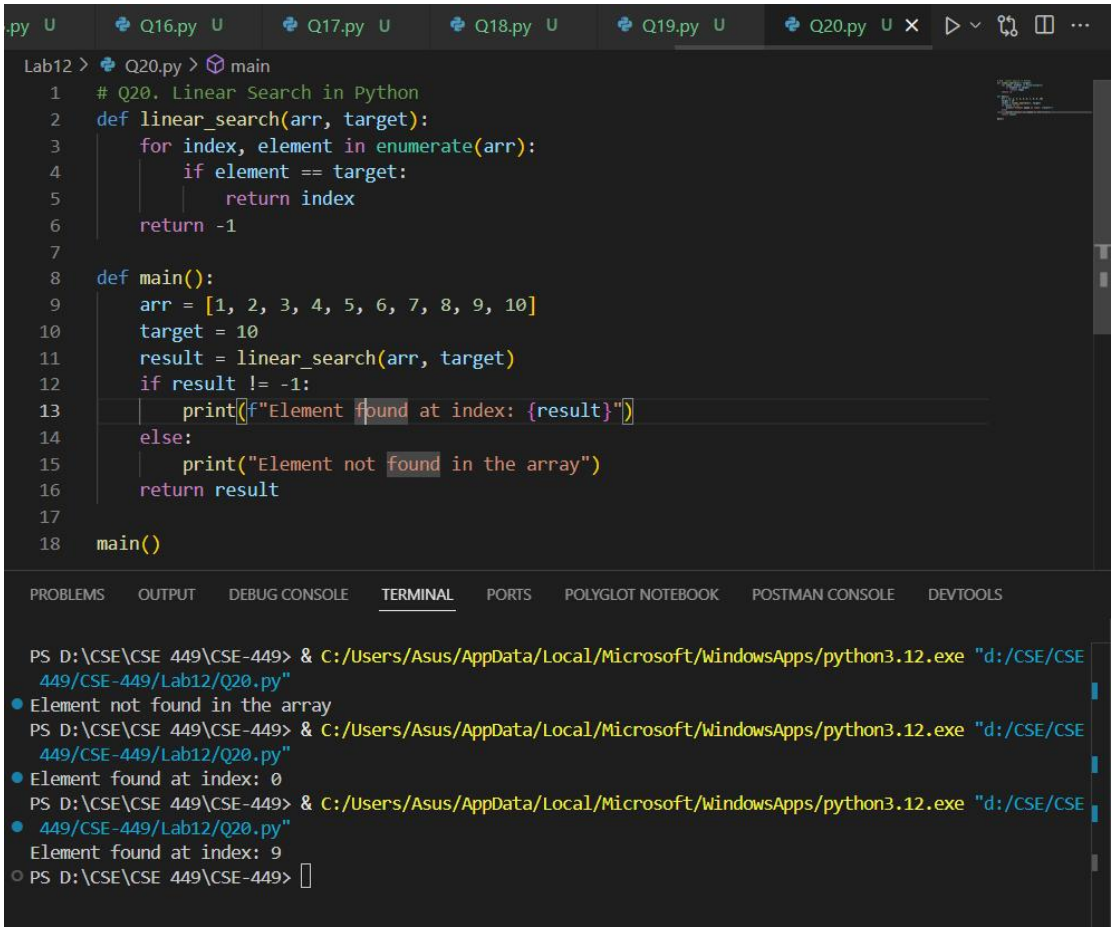
Q18. Python program to Merge two Dictionaries



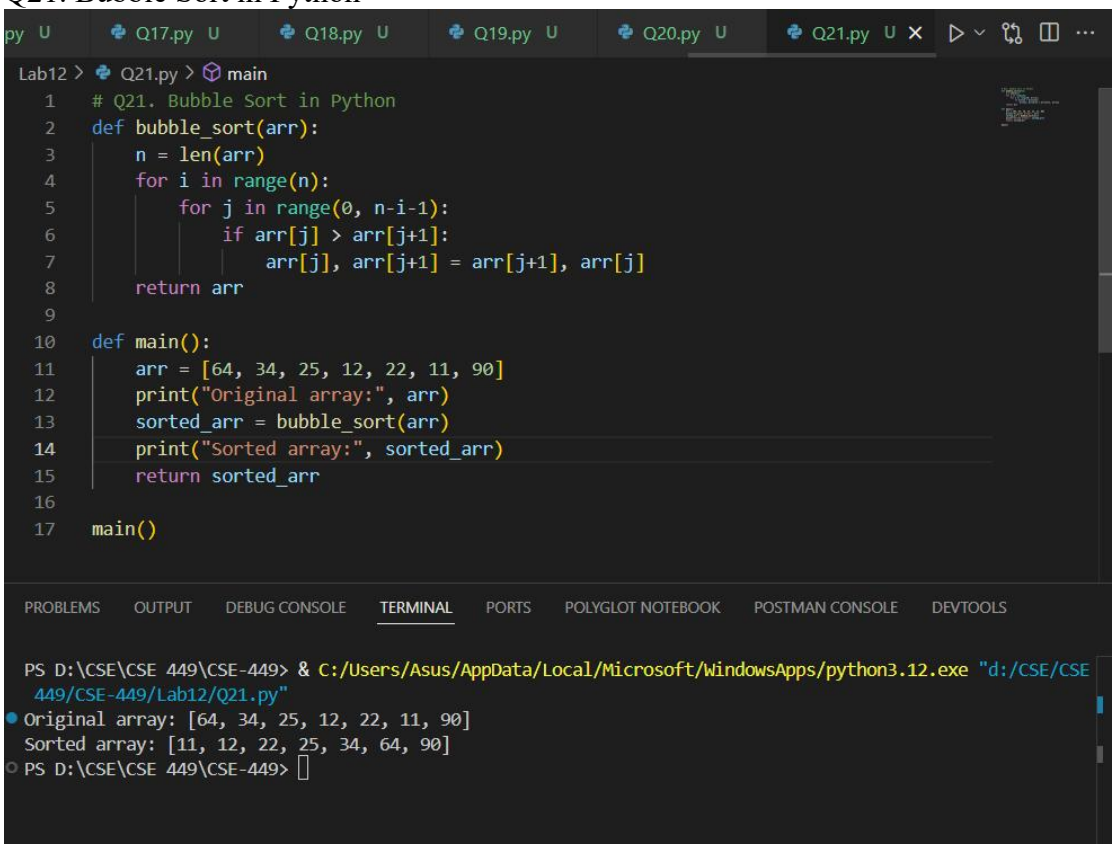
Q19. Binary Search in Python



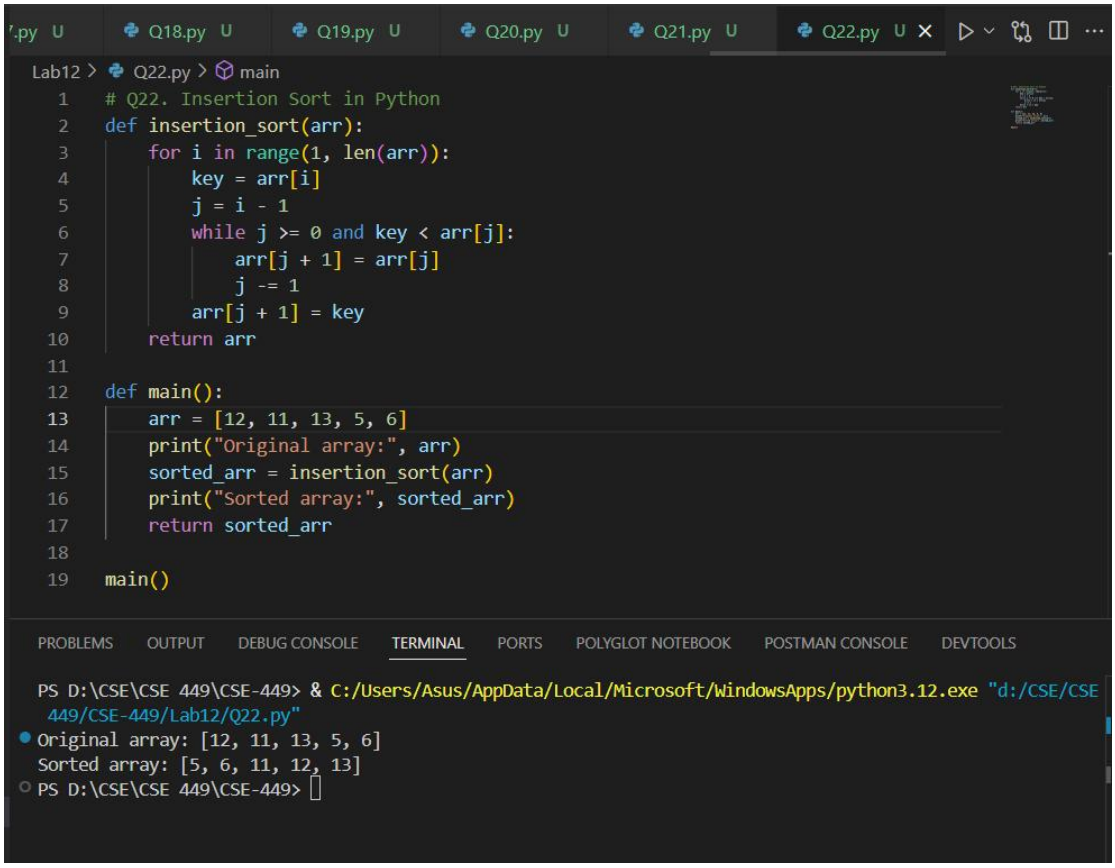
Q20. Linear Search in Python



Q21. Bubble Sort in Python



Q22. Insertion Sort in Python


.py U
Q18.py U
Q19.py U
Q20.py U
Q21.py U
Q22.py U
Lab12 > Q22.py > main
# Q22. Insertion Sort in Python
def insertion_sort(arr):
for i in range(1, len(arr)):
key = arr[i]
j = i - 1
while j >= 0 and key < arr[j]:
arr[j + 1] = arr[j]
j -= 1
arr[j + 1] = key
return arr
def main():
arr = [12, 11, 13, 5, 6]
print("Original array:", arr)
sorted_arr = insertion_sort(arr)
print("Sorted array:", sorted_arr)
return sorted_arr
main()
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
POLYGLOT NOTEBOOK
POSTMAN CONSOLE
DEVTOOLS
PS D:\CSE\CSE 449\CSE-449> & C:/Users/Asus/AppData/Local/Microsoft/WindowsApps/python3.12.exe "d:/CSE/CSE 449/CSE-449/Lab12/Q22.py"
Original array: [12, 11, 13, 5, 6]
Sorted array: [5, 6, 11, 12, 13]
PS D:\CSE\CSE 449\CSE-449>