GLOBAL QUEST
TECHNOLOGIES

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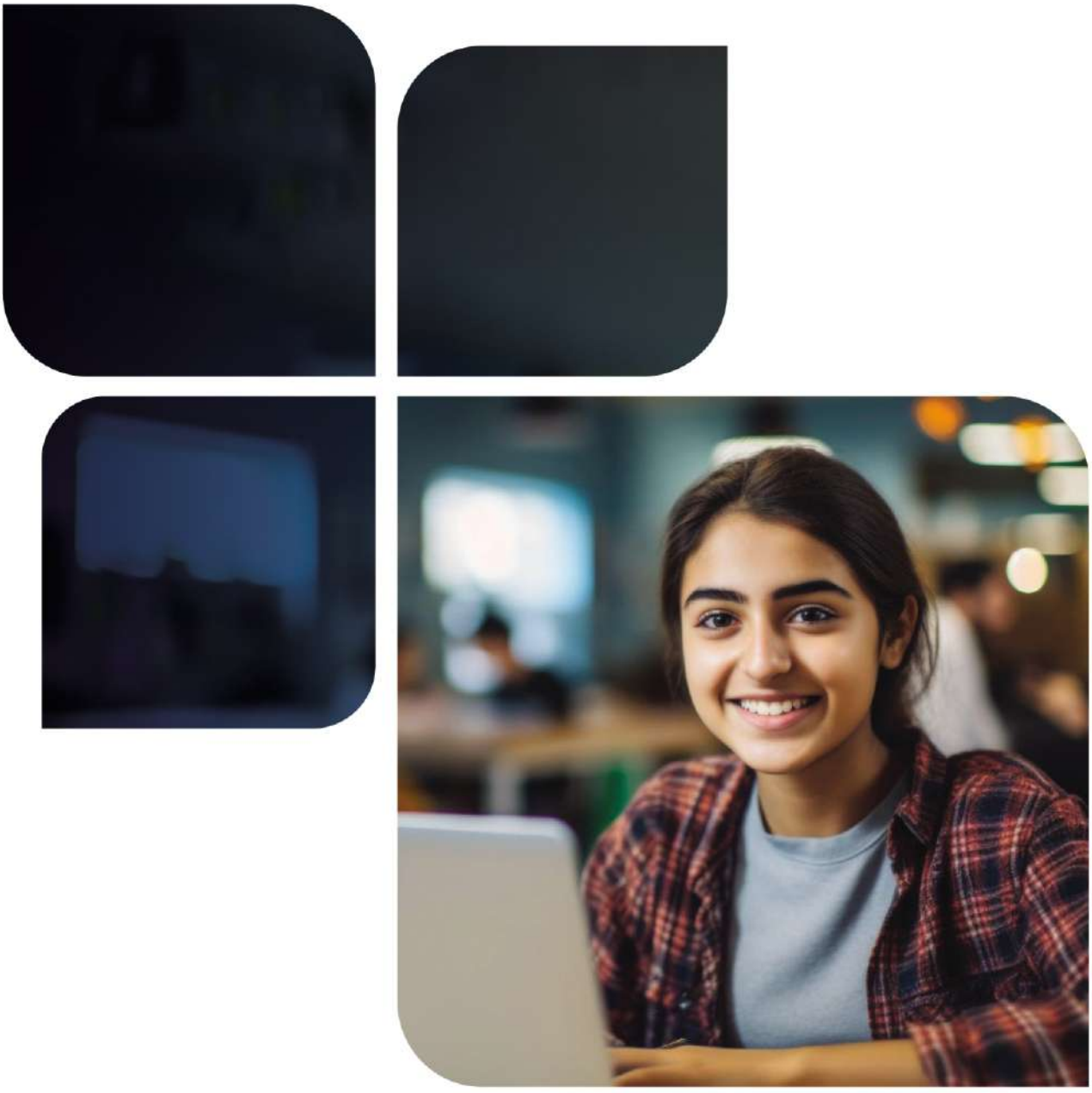
Certified Organizaton



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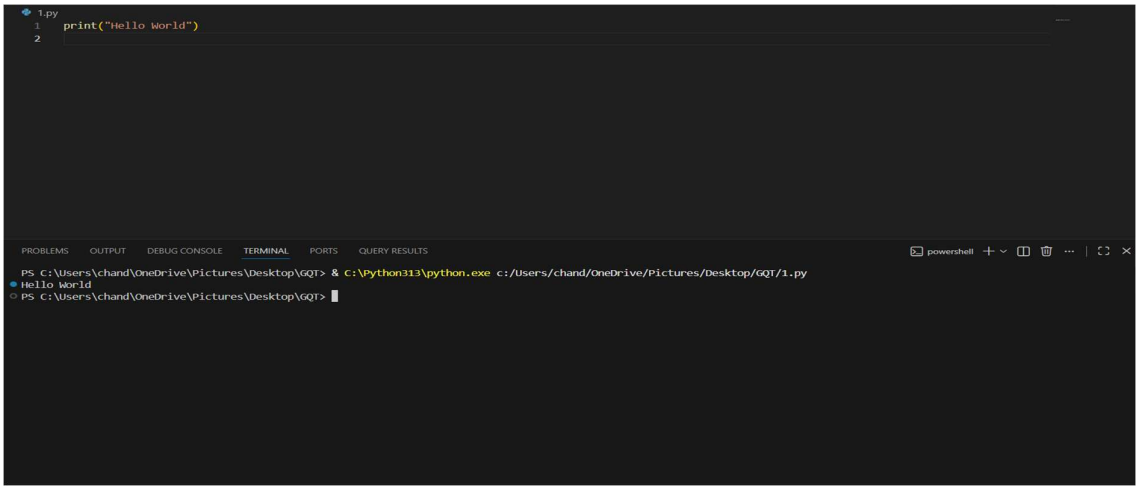
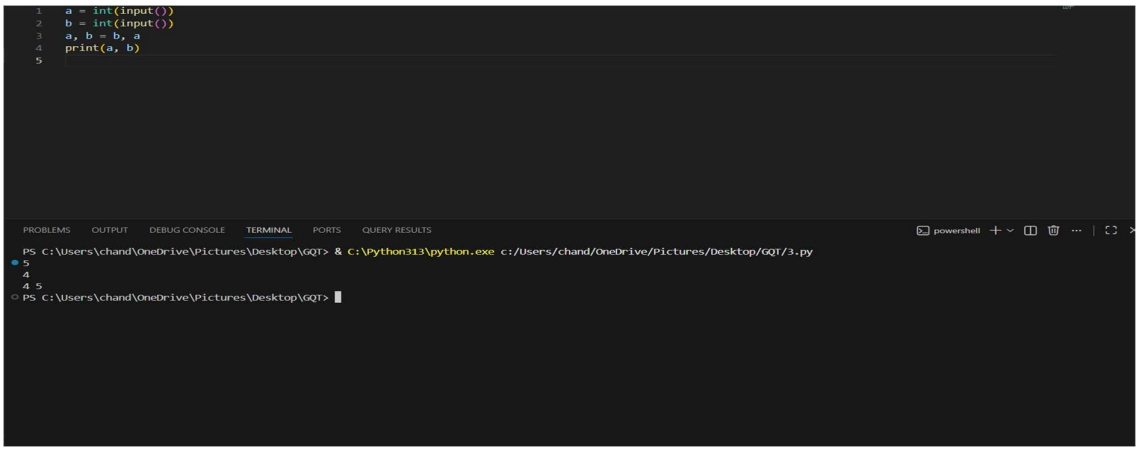
CORE PYTHON PROGRAMS

1. Write a Python Program to print "Hello World".

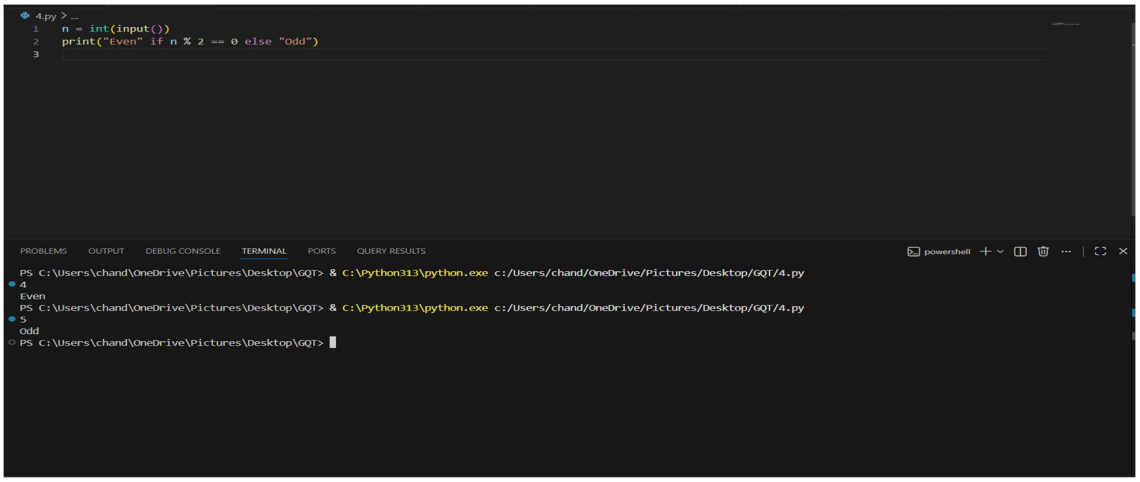


2. Write a Python Program to take user input and display it.

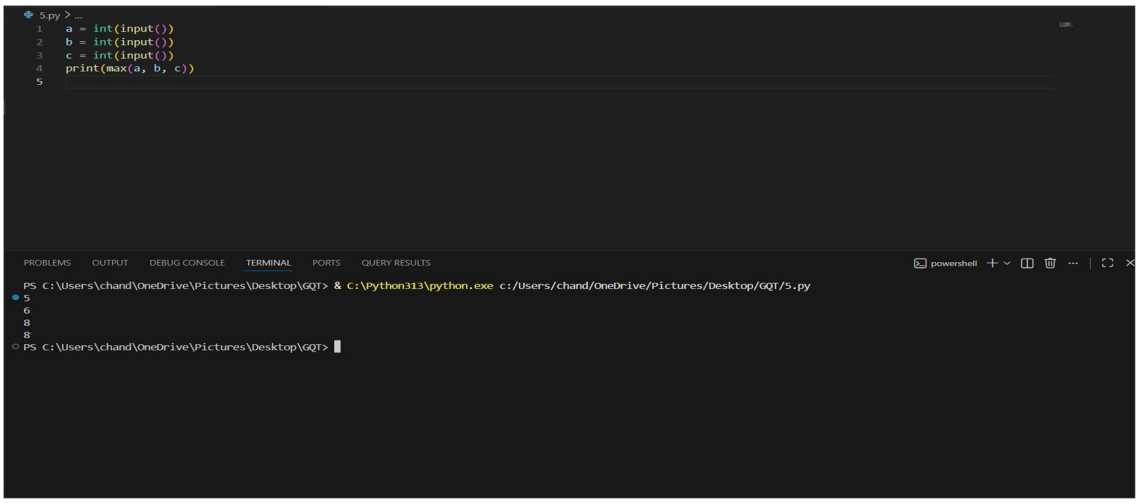
3. Write a Python Program to swap two numbers.



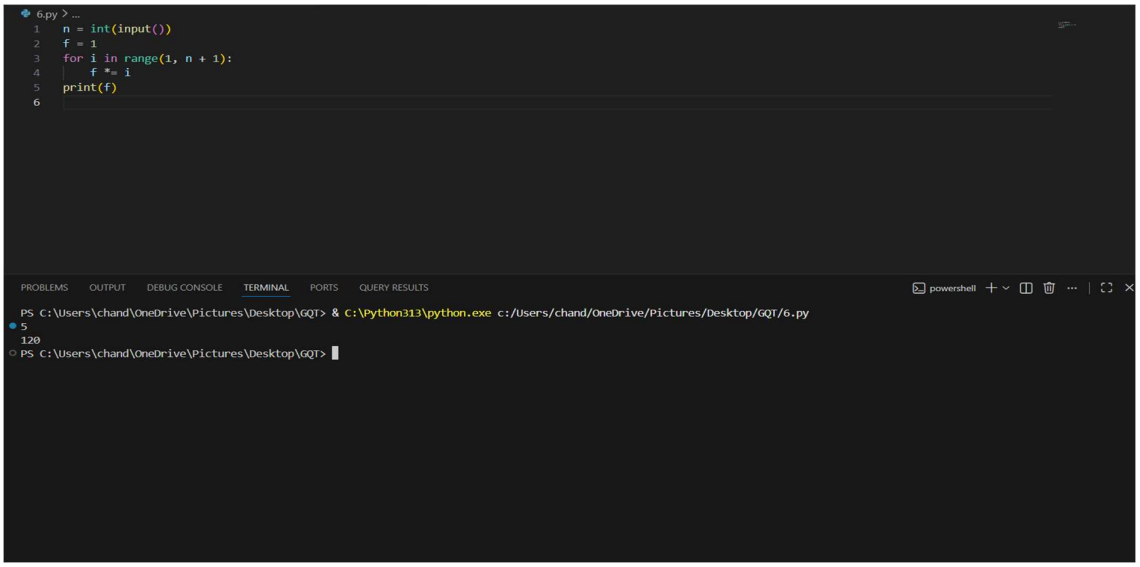
4. Write a Python Program to check if a number is even or odd.



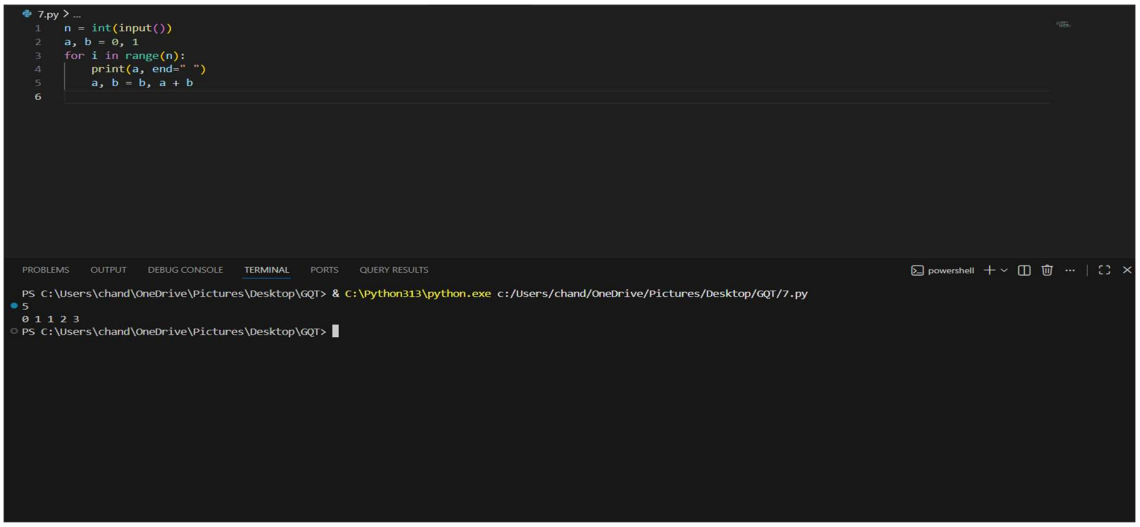
5. Write a Python Program to find the largest of three numbers.



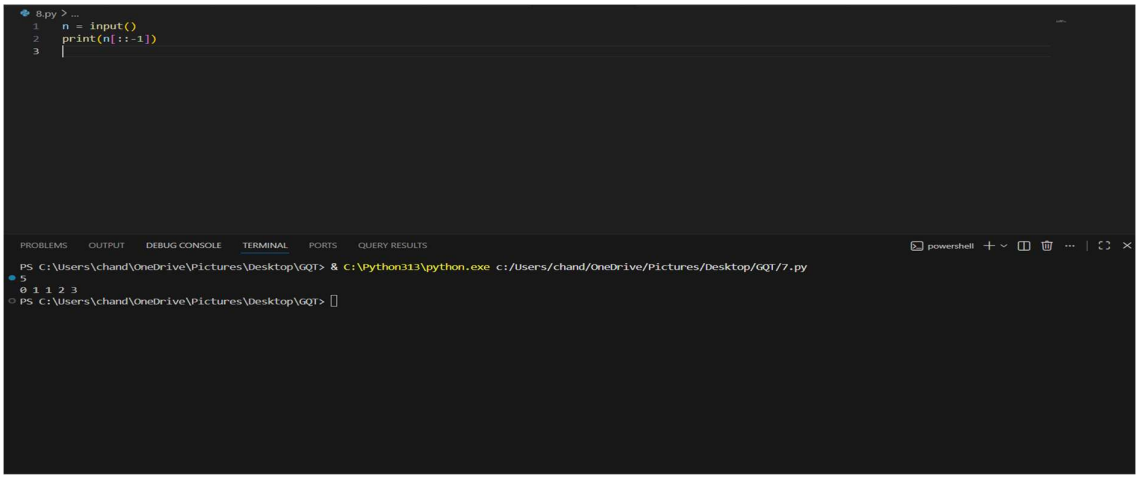
6. Write a Python Program to calculate the factorial of a number.



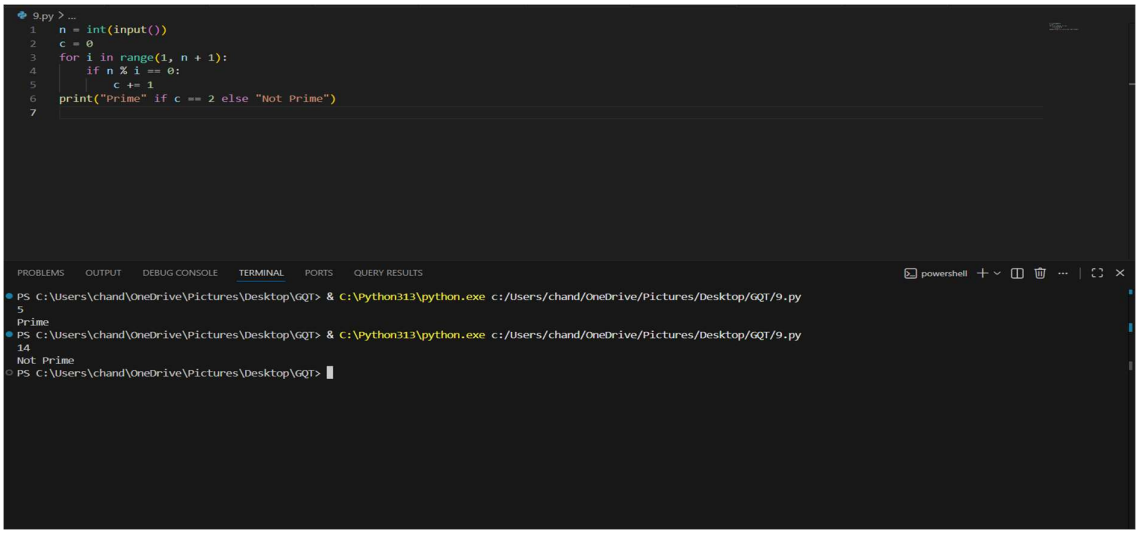
7. Write a Python Program to generate the Fibonacci series.



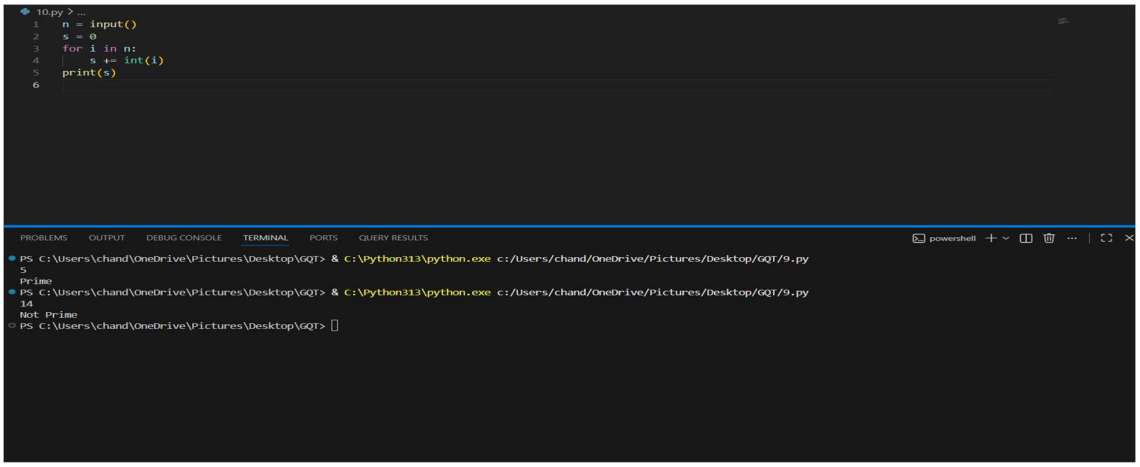
8. Write a Python Program to reverse a number.



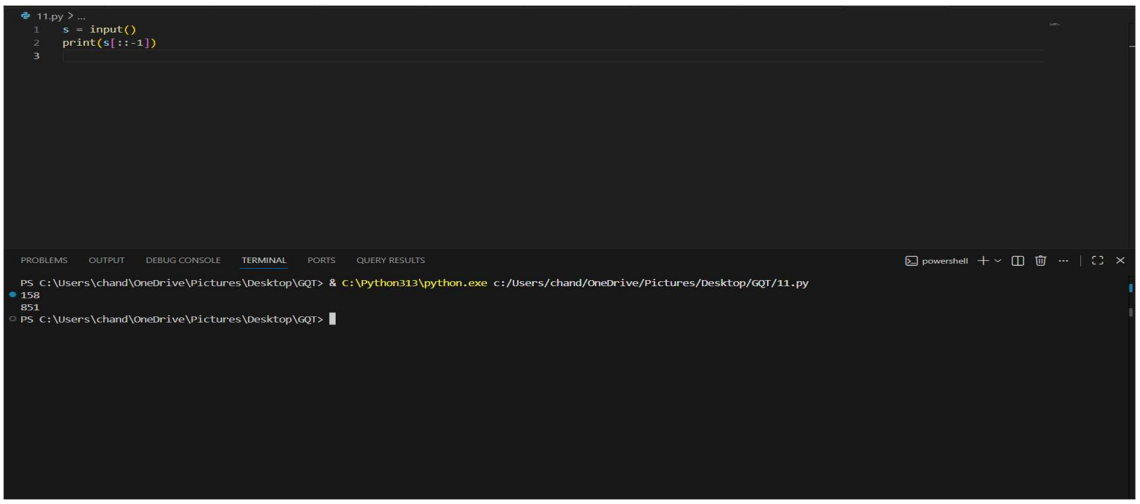
9. Write a Python Program to check if a number is prime.



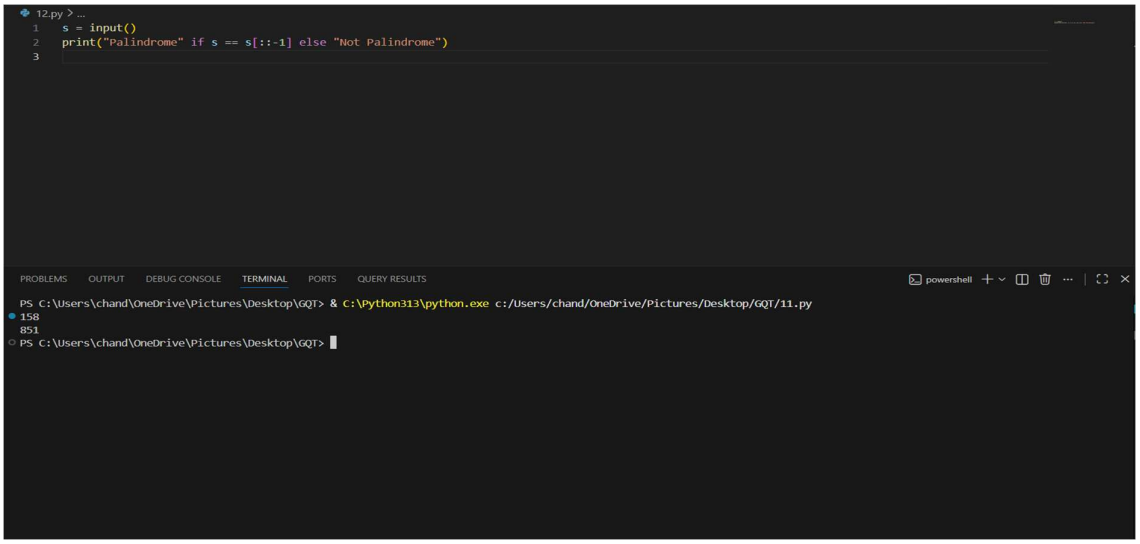
10. Write a Python Program to find the sum of digits of a number.



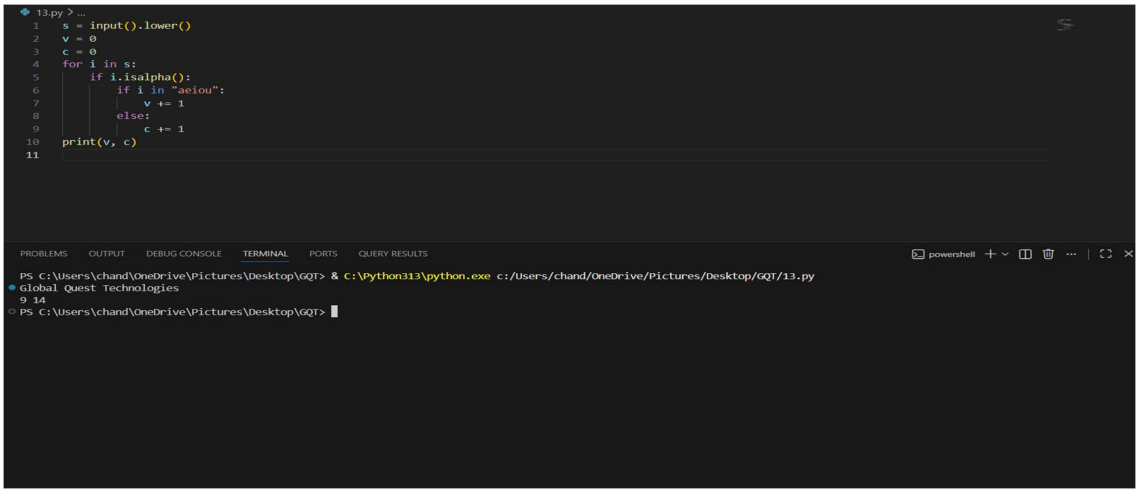
11. Write a Python Program to reverse a string.



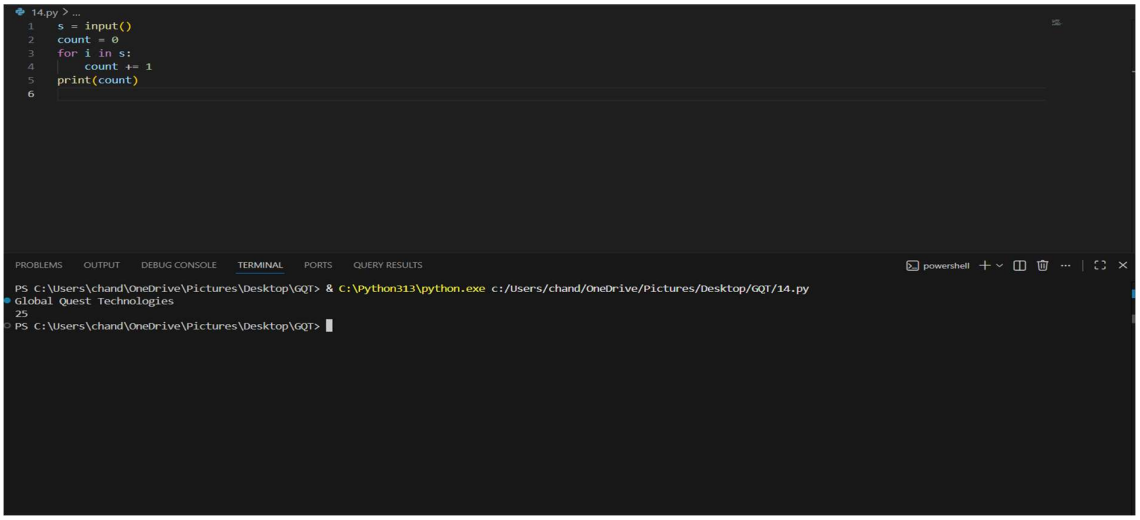
12. Write a Python Program to check if a string is a palindrome.



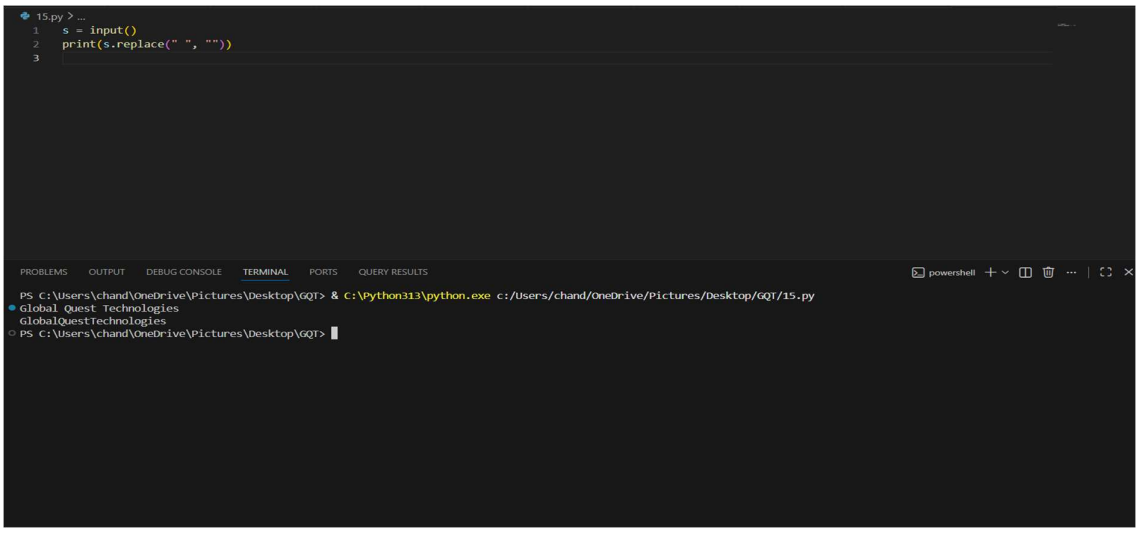
13. Write a Python Program to count vowels and consonants in a string.



14. Write a Python Program to find the length of a string without using 'len()'.



15. Write a Python Program to remove all spaces from a string.



16. Write a Python Program to count occurrences of a substring.

```
16.py > ...
1   s = input()
2   sub = input()
3   print(s.count(sub))
4

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS                    powershell

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/16.py
Global Quest Technologies
Tech
1
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

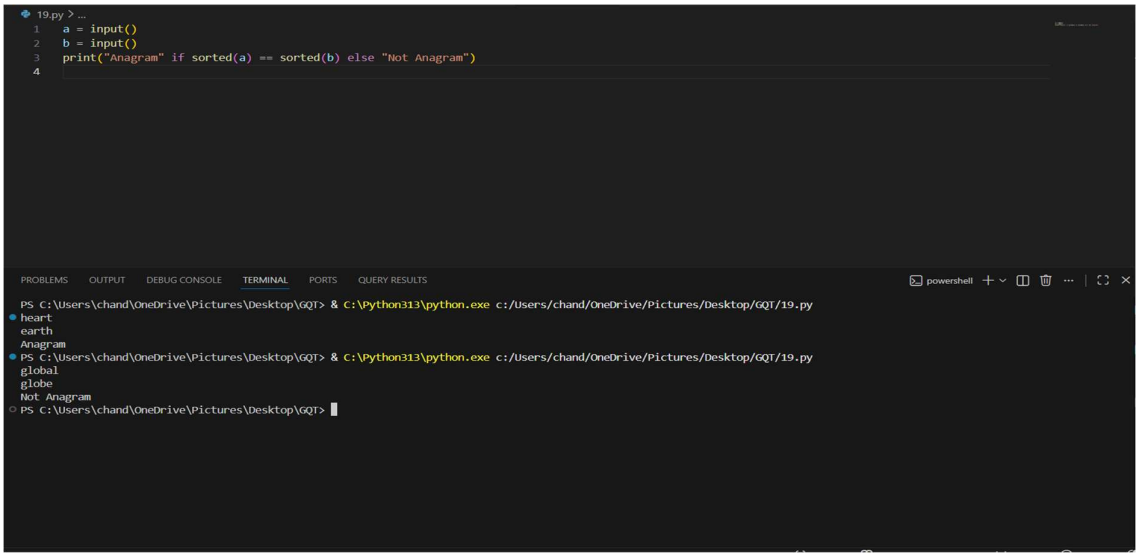
17. Write a Python Program to convert a string to uppercase.

```
17.py > ...
1   s = input()
2   print(s.upper())
3

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS                    powershell

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/17.py
global quest technologies
GLOBAL QUEST TECHNOLOGIES
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

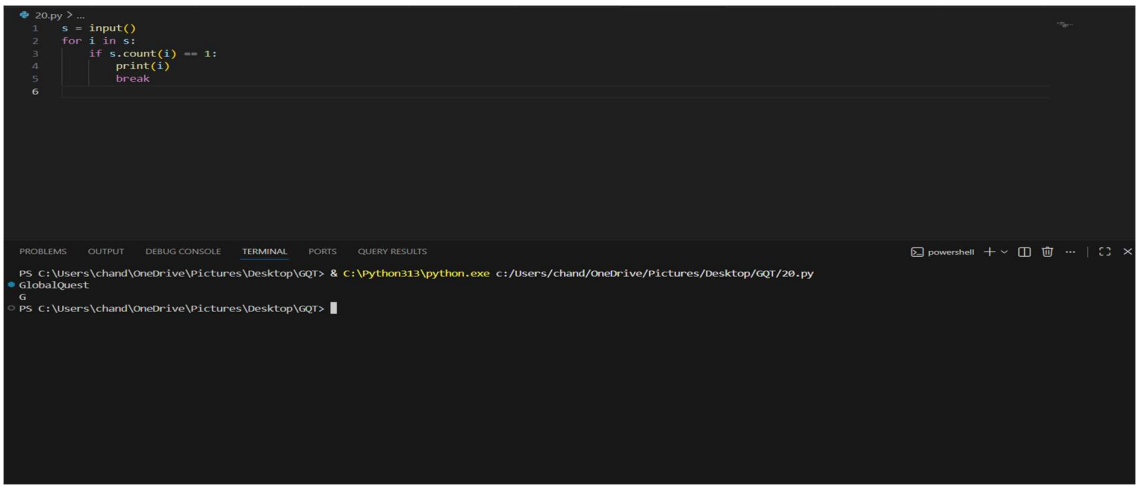
18. Write a Python Program to replace vowels with ***

```
18.py > ...
1   s = input()
2   for i in "aeiouAEIOU":
3       s = s.replace(i, "***")
4   print(s)
5

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS                    powershell

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/18.py
global quest technologies
gl***b***l q******st t***chn***l***g*****s
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

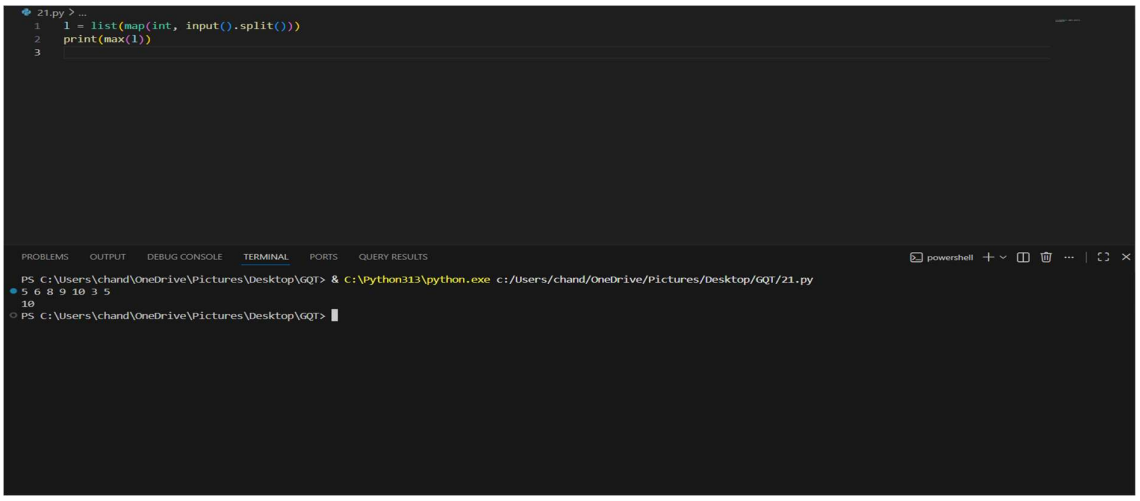
19. Write a Python Program to check if two strings are anagrams.



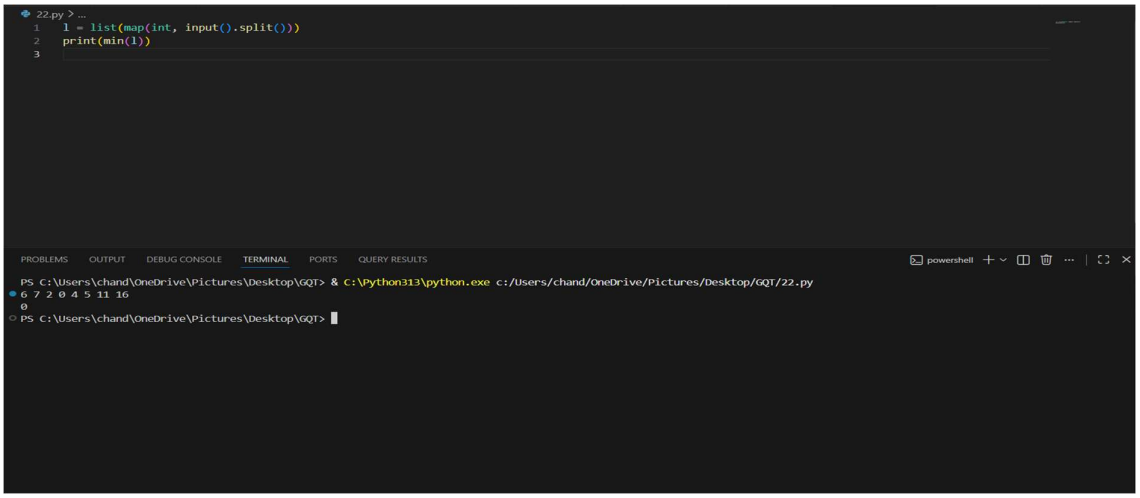
20. Write a Python Program to find the first non-repeated character in a string.



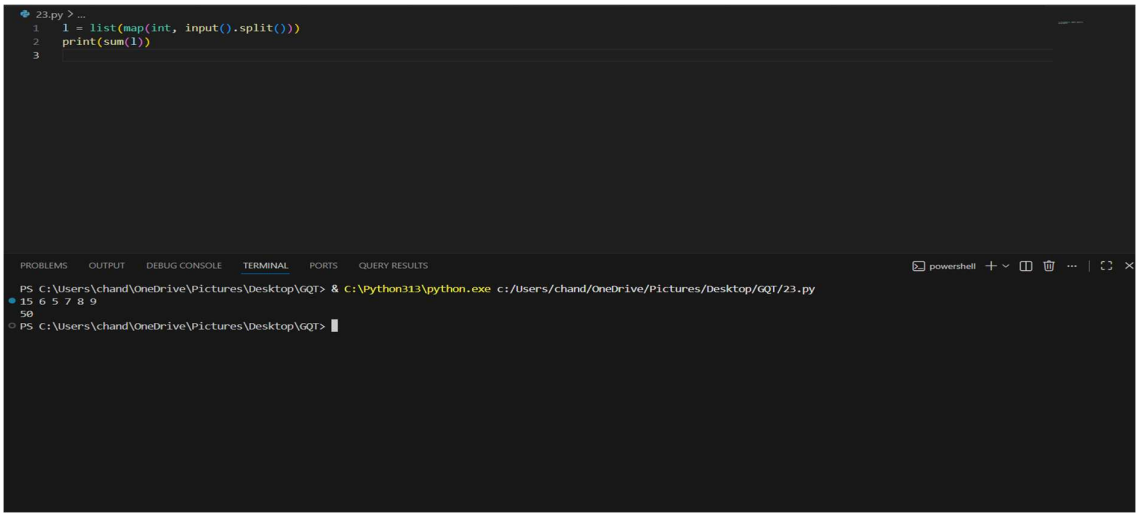
21. Write a Python Program to find the largest element in a list.



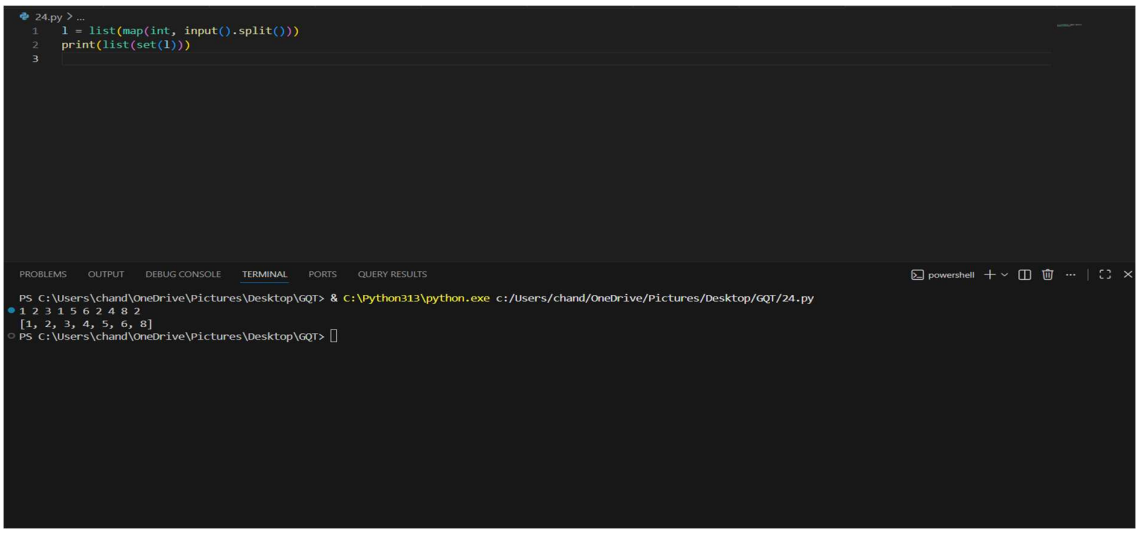
22. Write a Python Program to find the smallest element in a list.



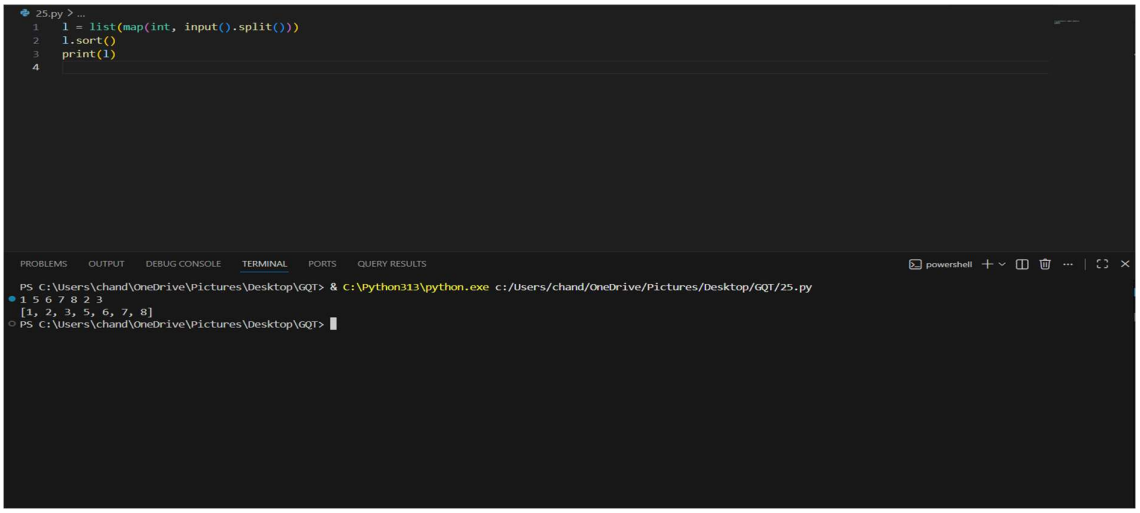
23. Write a Python Program to calculate the sum of elements in a list.



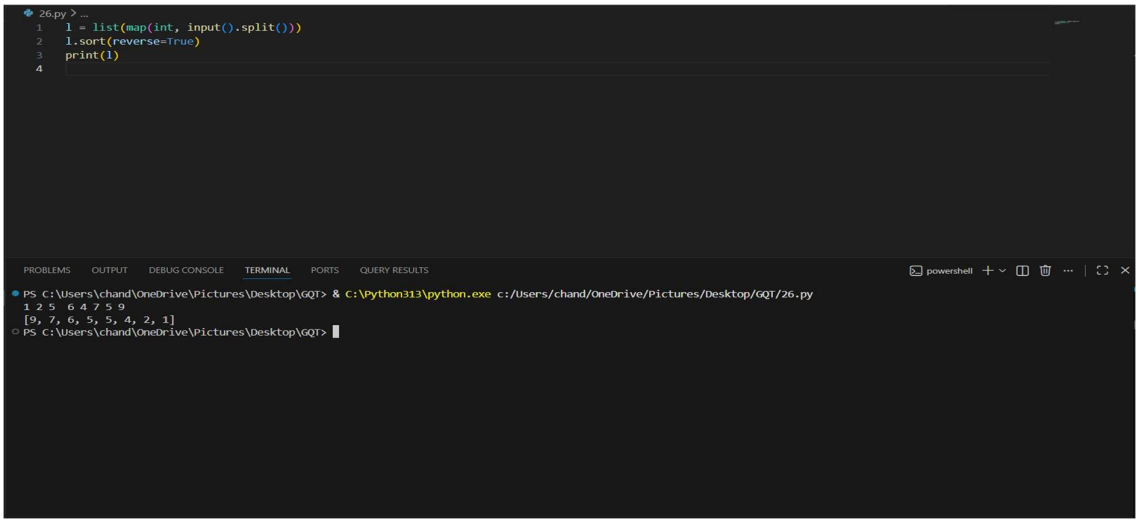
24. Write a Python Program to remove duplicates from a list.



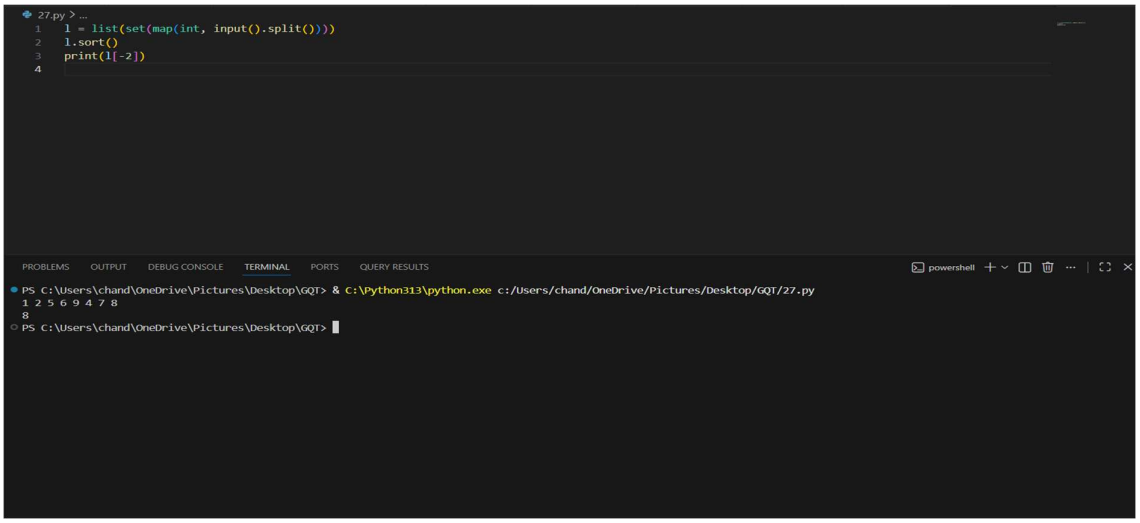
25. Write a Python Program to sort a list in ascending order.



26. Write a Python Program to sort a list in descending order.



27. Write a Python Program to find the second largest element in a list.



28. Write a Python Program to merge two lists.

```
28.py > ...
1  a = list(map(int, input().split()))
2  b = list(map(int, input().split()))
3  print(a + b)
4

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/28.py
1 2 5 6 3 4
9 6 5 7 2 4
[1, 2, 5, 6, 3, 4, 9, 6, 5, 7, 2, 4]
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

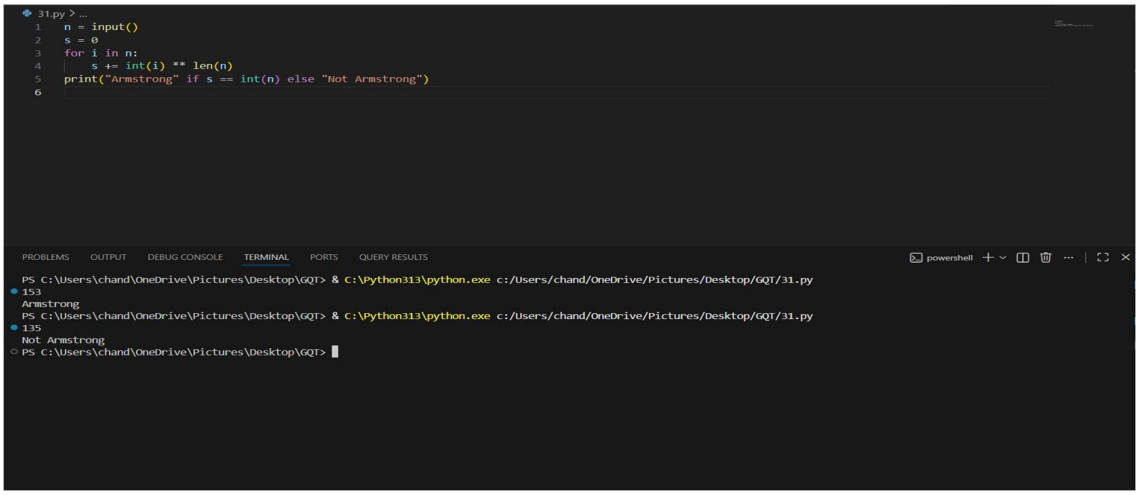
29. Write a Python Program to find common elements between two lists.

```
29.py > ...
1  a = set(map(int, input().split()))
2  b = set(map(int, input().split()))
3  print(list(a & b))
4

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/29.py
1 2 3 4 5 6 7
4 5 9 3 6 7 2
[2, 3, 4, 5, 6, 7]
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

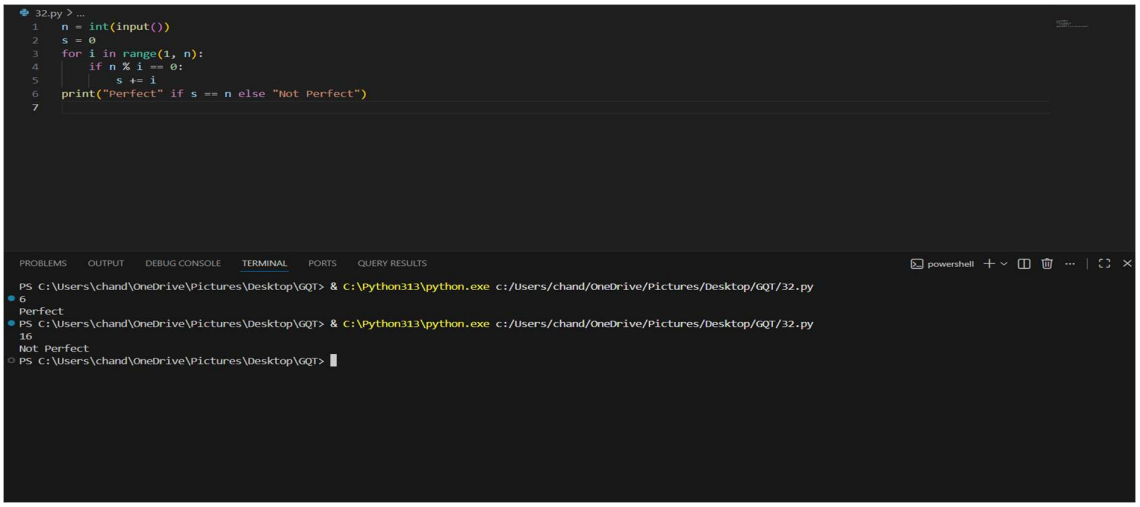
30. Write a Python Program to rotate a list by 'k' positions.

```
30.py > ...
1  l = list(map(int, input().split()))
2  k = int(input())
3  print(l[k:] + l[:k])
4

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/30.py
1 5 8 6 9 7 5
5
[7, 5, 1, 5, 8, 6, 9]
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

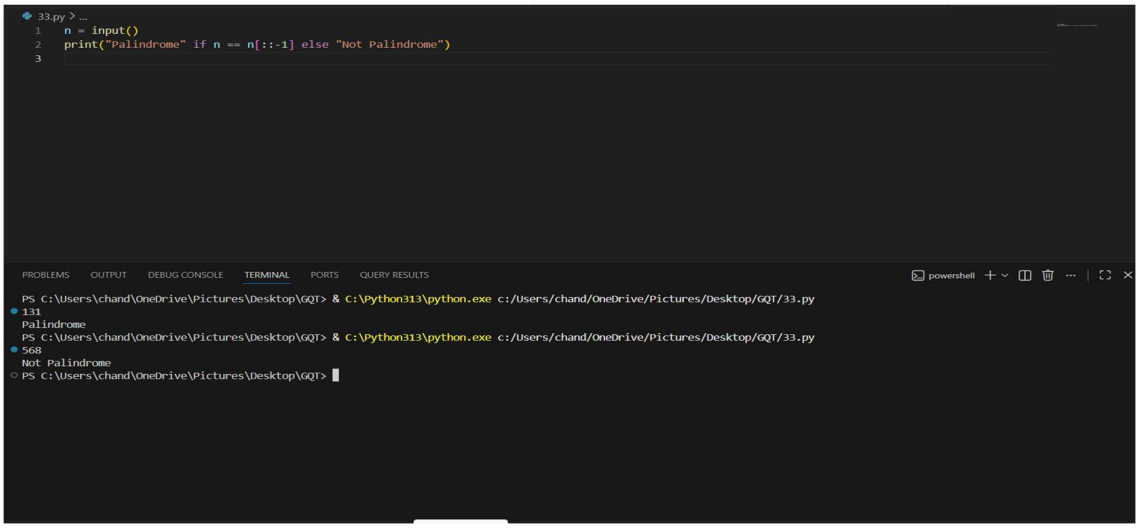
31. Write a Python Program to check if a number is an Armstrong number.



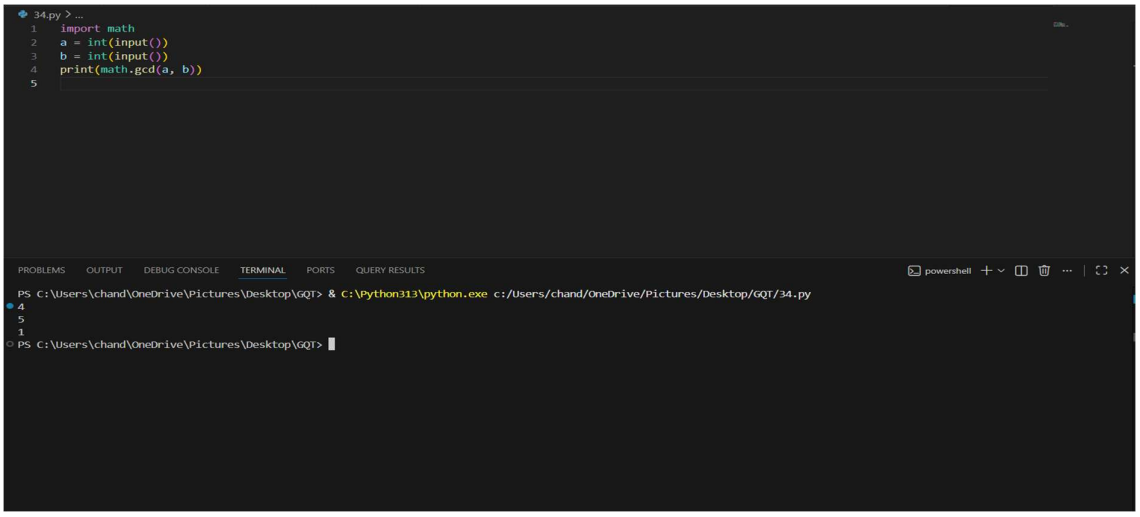
32. Write a Python Program to check if a number is a perfect number.



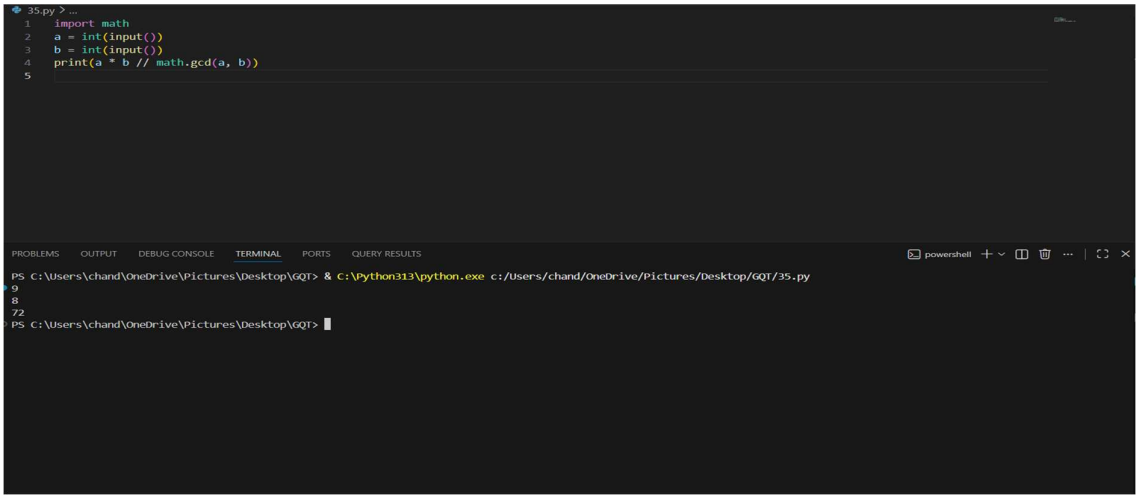
33. Write a Python Program to check if a number is a palindrome.



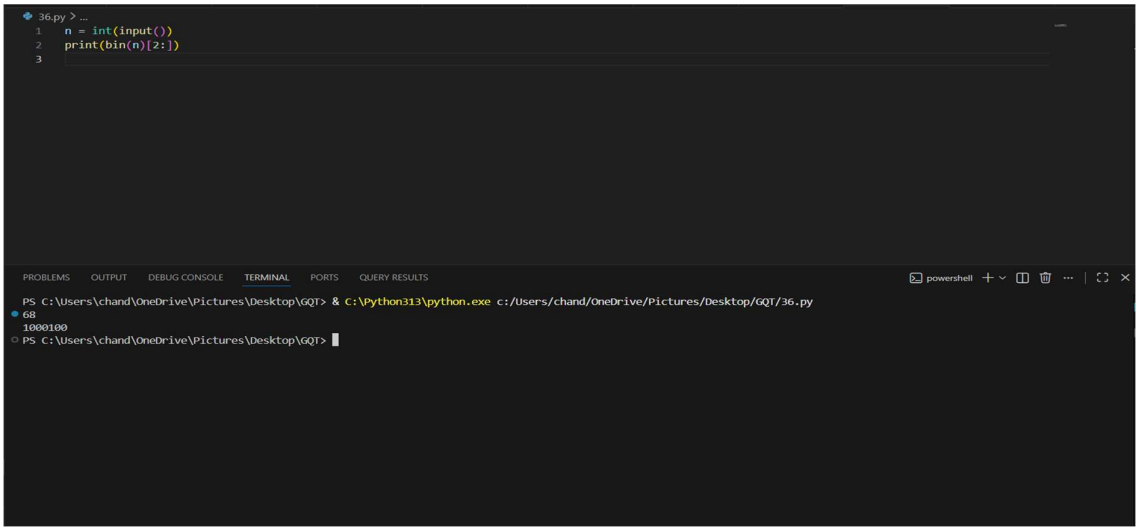
34. Write a Python Program to find the GCD of two numbers.



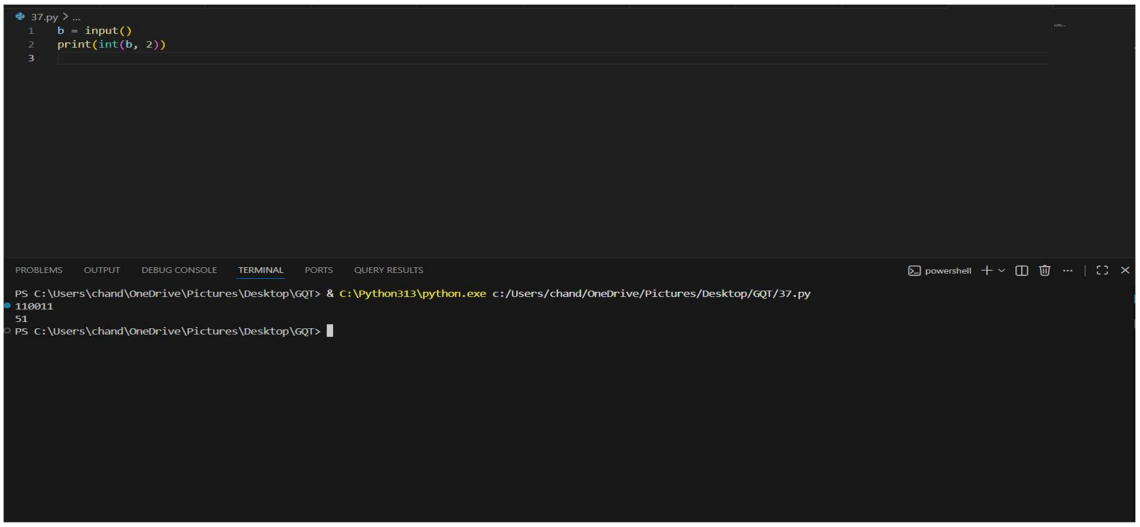
35. Write a Python Program to find the LCM of two numbers.



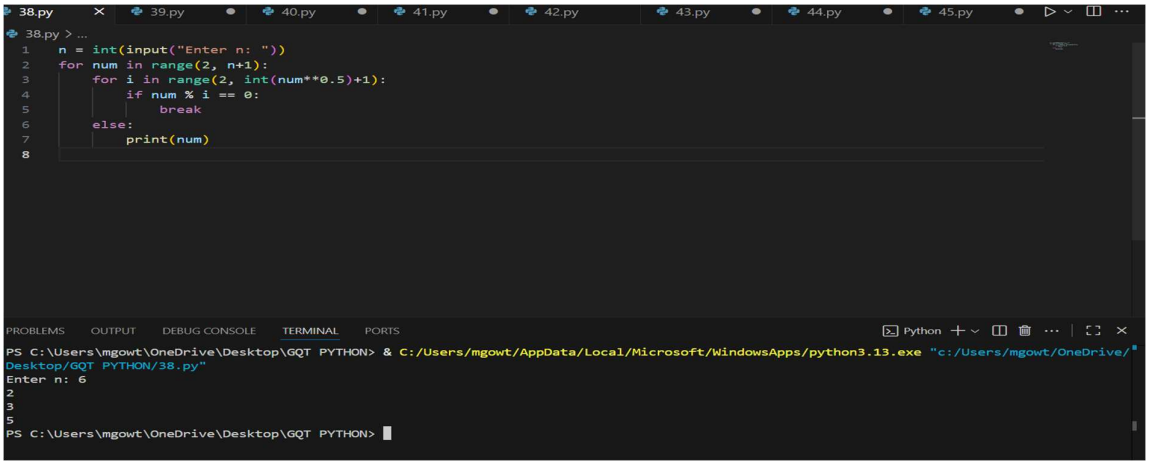
36. Write a Python Program to convert decimal to binary.



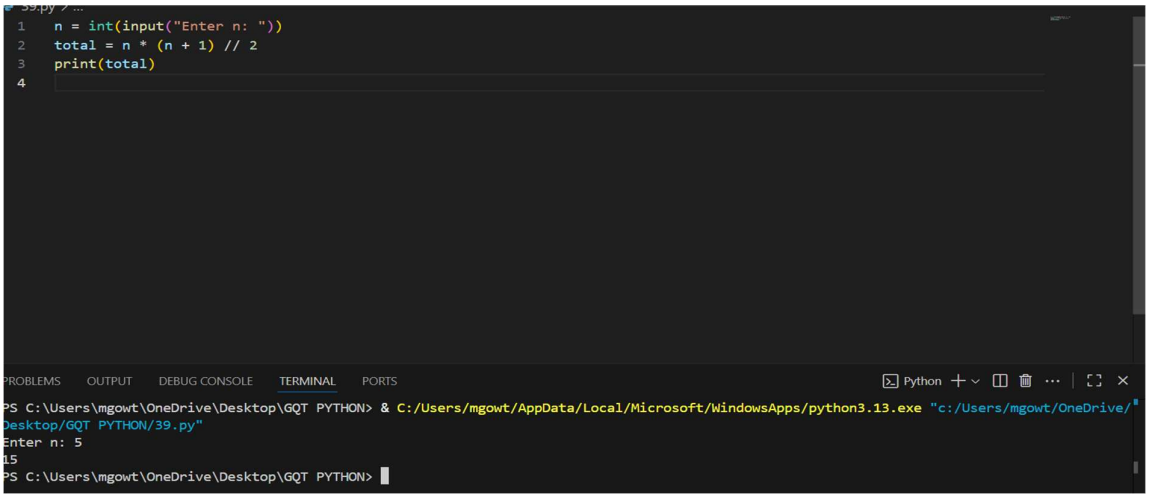
37. Write a Python Program to convert binary to decimal.



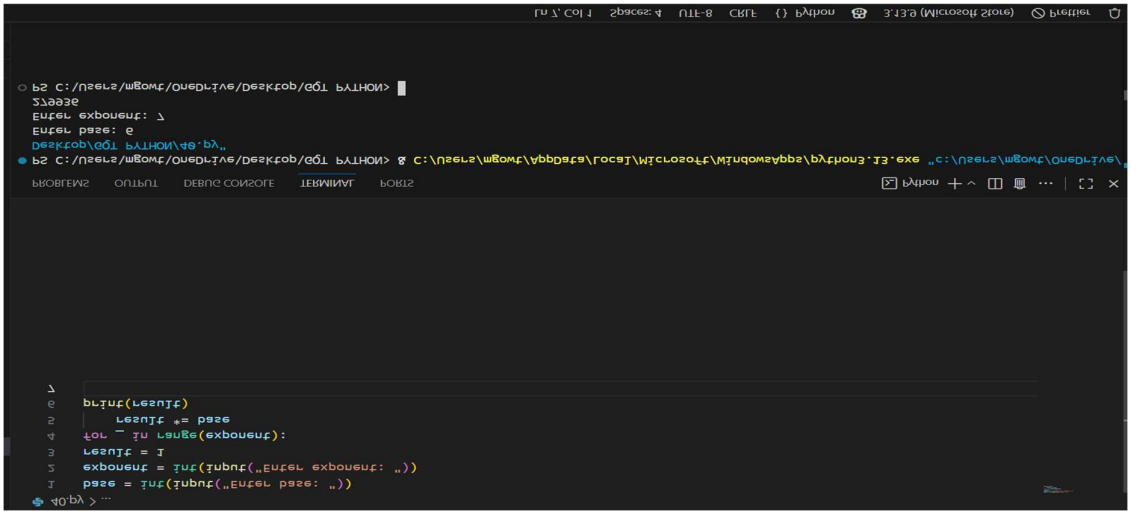
38. Write a Python Program to generate prime numbers up to 'n'



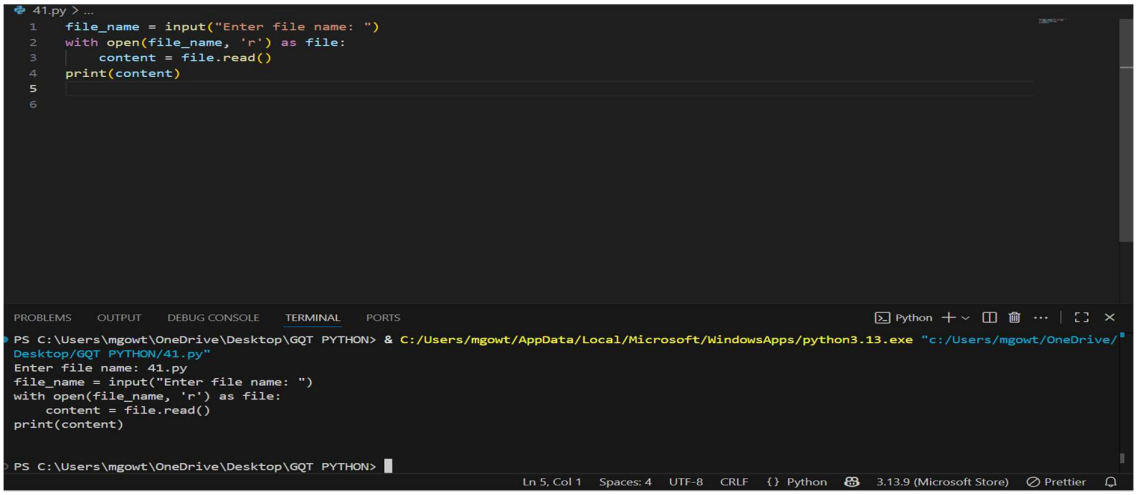
39. Write a Python Program to find the sum of natural numbers up to 'n'



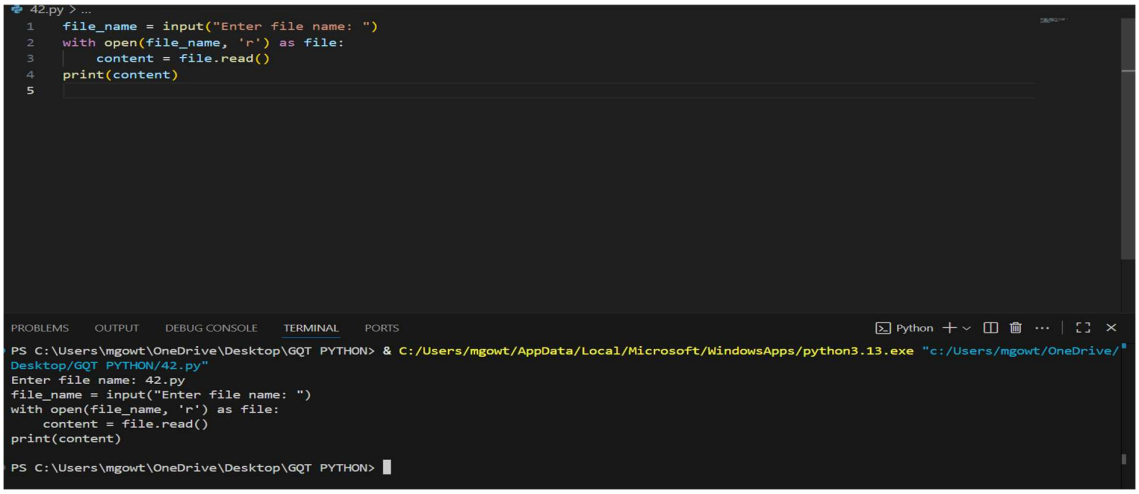
40. Write a Python Program to calculate the power of a number without using



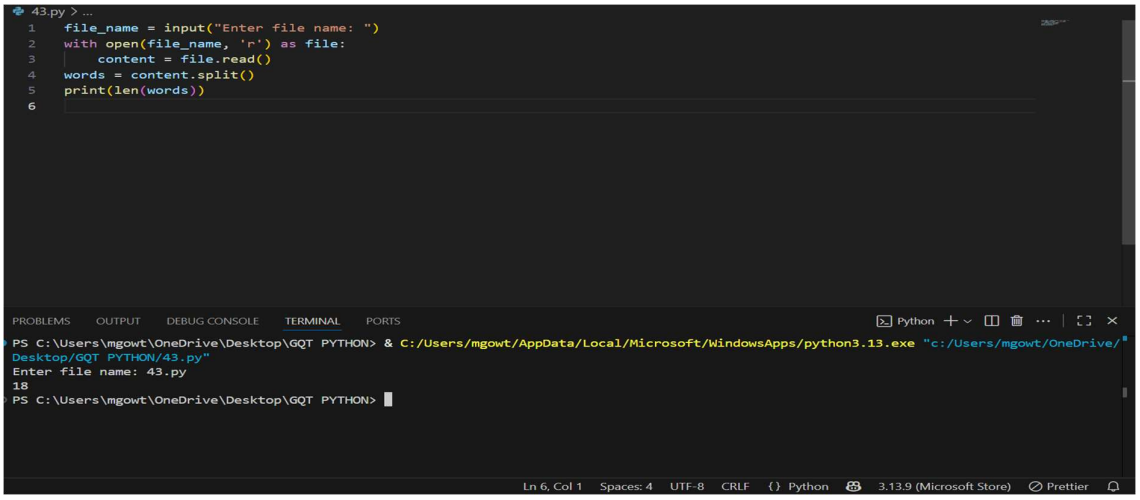
41. Write a Python Program to read a text file.



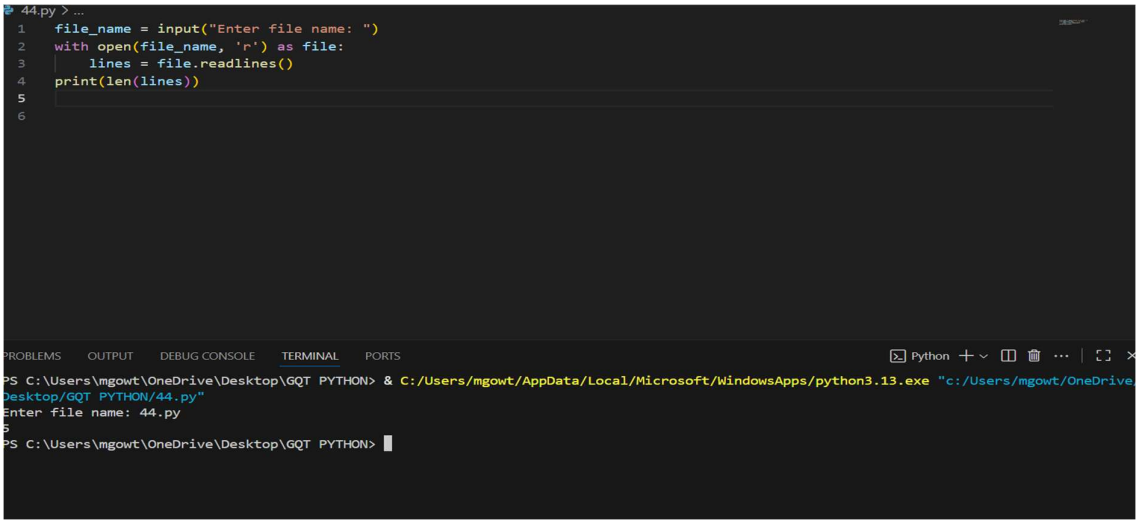
42. Write a Python Program to write to a text file.



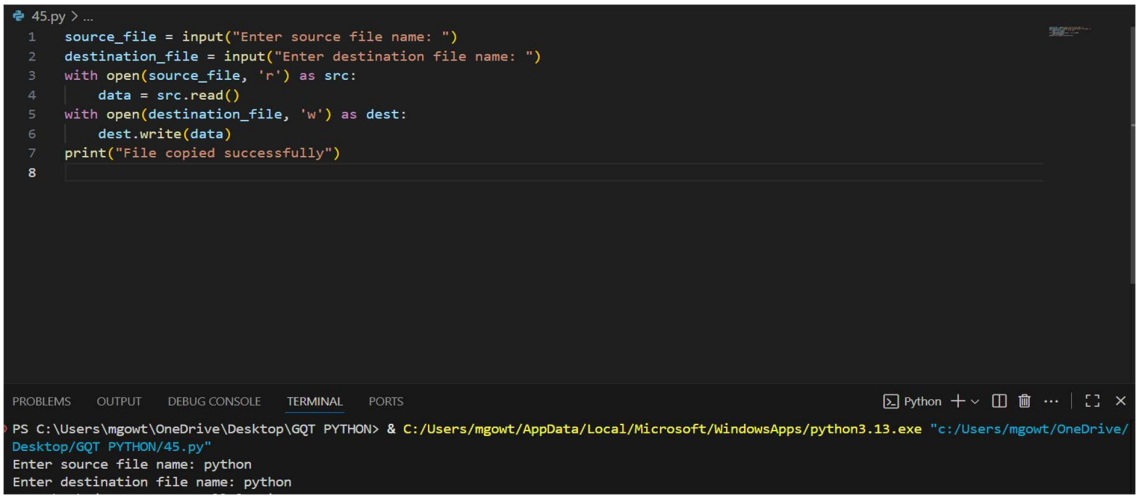
43. Write a Python Program to count words in a file.



44. Write a Python Program to count lines in a file.



45. Write a Python Program to copy contents from one file to another.



46. Write a Python Program to check if a file exists.

```python
import os
print(os.path.isfile("file.txt"))
```

```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/46.py"
False
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

47. Write a Python Program to append text to a file.

```python
f = open("file.txt","a")
f.write("Appended text\n")
f.close()
```

```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/47.py"
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

48. Write a Python Program to find the longest word in a file.

```python
f = open("file.txt","r")
words = f.read().split()
f.close()
print(max(words,key=len))
```

```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/48.py"
Appended
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

49. Write a Python Program to remove blank lines from a file.

```
49.py > ...
1   f = open("file.txt","r")
2   lines = f.readlines()
3   f.close()
4   f = open("file.txt","w")
5   for line in lines:
6       if line.strip():
7           f.write(line)
8   f.close()
9
10
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                    Python
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/
Desktop/GQT PYTHON/49.py"
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

```
Ln 9, Col 1  Spaces: 4  UTF-8  CRLF  { } Python  3.13.9 (Microsoft Store)  Prettier
```

50. Write a Python Program to read a CSV file.

```
50.py > ...
1   import csv
2
3   file_name = input("Enter CSV file name: ")
4   with open(file_name, 'r') as file:
5       reader = csv.reader(file)
6       for row in reader:
7           print(row)
8
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                    Python
Desktop/GQT PYTHON/50.py"
Enter CSV file name: 50.py
['import csv']
[]
['file_name = input("Enter CSV file name: ")']
['with open(file_name', " 'r') as file:"]
['    reader = csv.reader(file)']
['    for row in reader:']
['        print(row)']
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

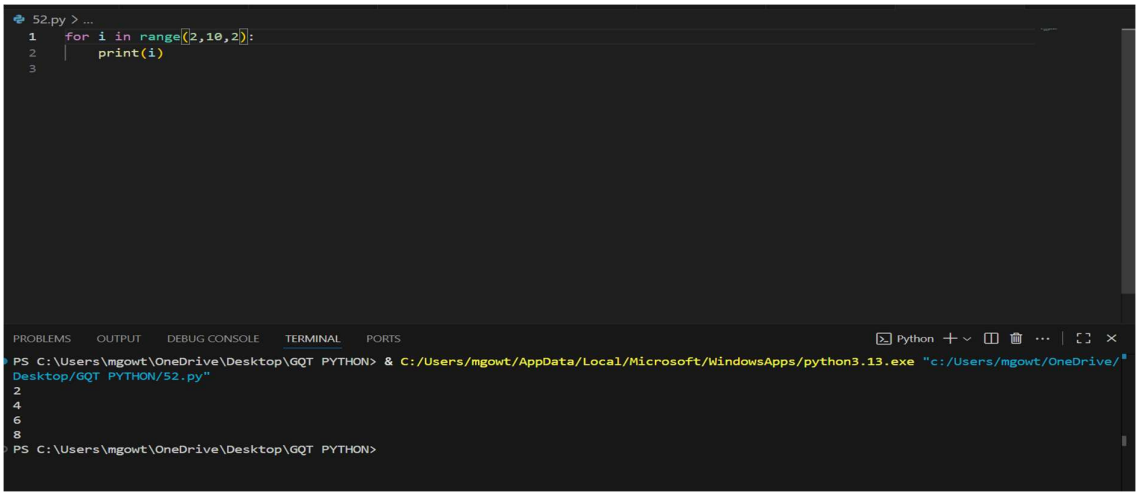
```
Ln 8, Col 1  Spaces: 4  UTF-8  CRLF  { } Python  3.13.9 (Microsoft Store)  Prettier
```

51. Write a Python Program to print multiplication table of a number.

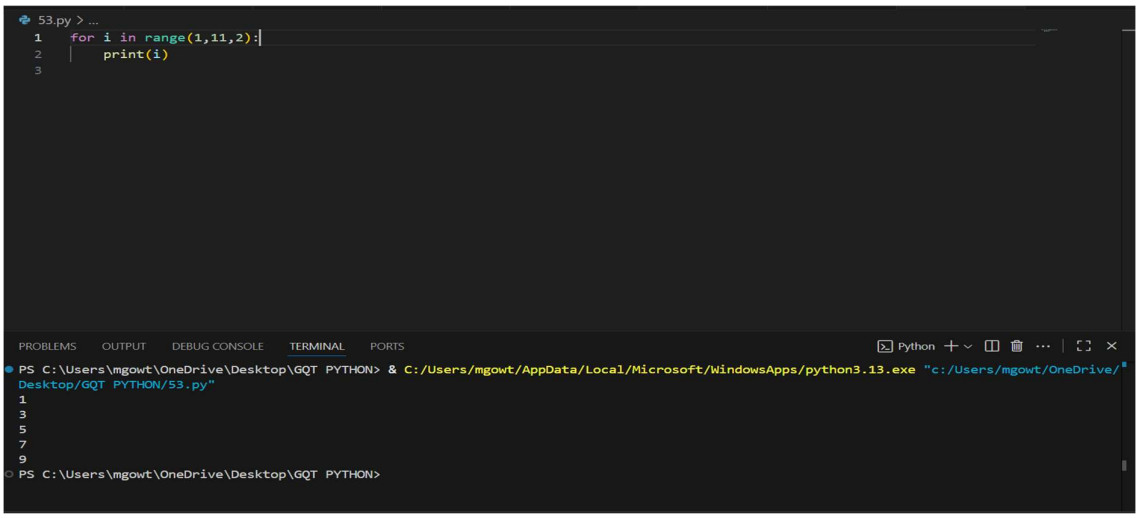
```
51.py > ...
1   n = int(input())
2   for i in range(1,11):
3       print(n*i)
4
5
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                    Python
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/
Desktop/GQT PYTHON/51.py"
```

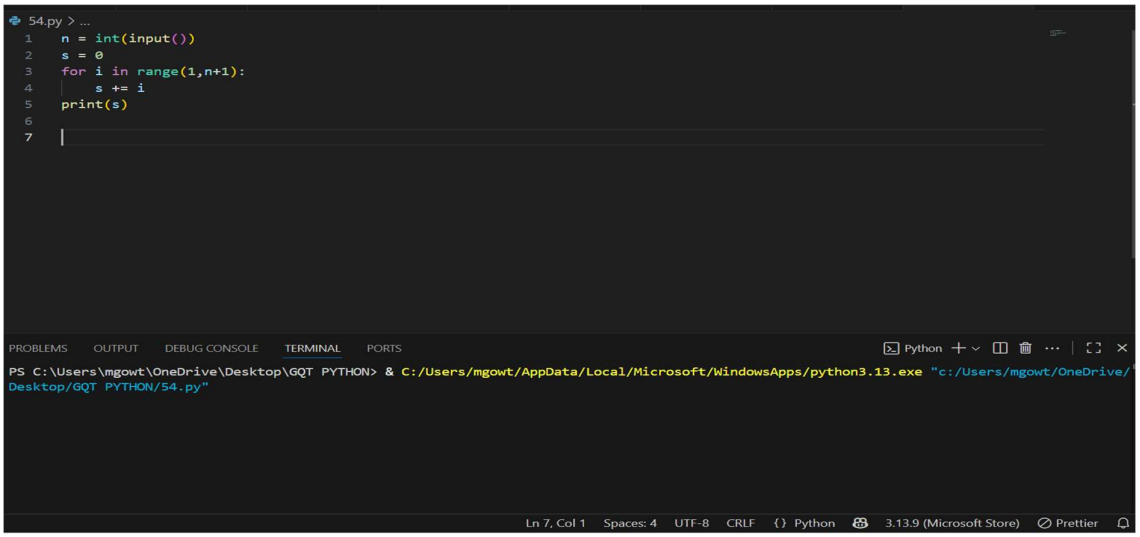
52. Write a Python Program to print all even numbers between 1 and 100.



53. Write a Python Program to print all odd numbers between 1 and 100.



54. Write a Python Program to calculate the sum of first 'n' natural numbers using a loop.



55. Write a Python Program to print a pyramid pattern of stars.

```
n = int(input())
for i in range(1,n+1):
    print(" "*(n-i)+"*"*(2*i-1))
```

```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/55.py"
```

56. Write a Python Program to print an inverted pyramid of stars.

```
n = int(input())
for i in range(n,0,-1):
    print(" "*(n-i)+"*"*(2*i-1))
```

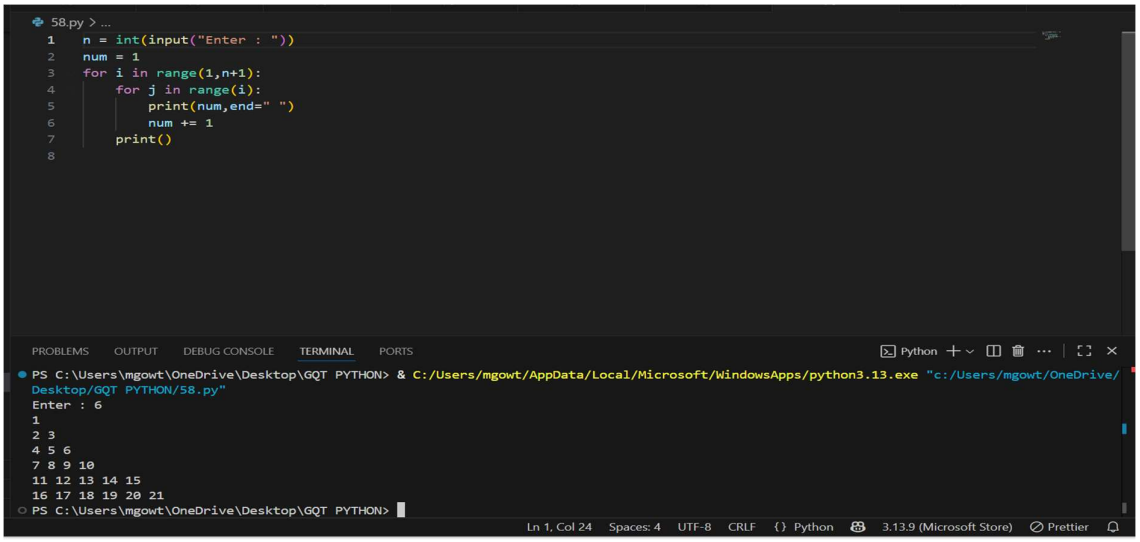
```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/56.py"
```

57. Write a Python Program to print Pascal's triangle.

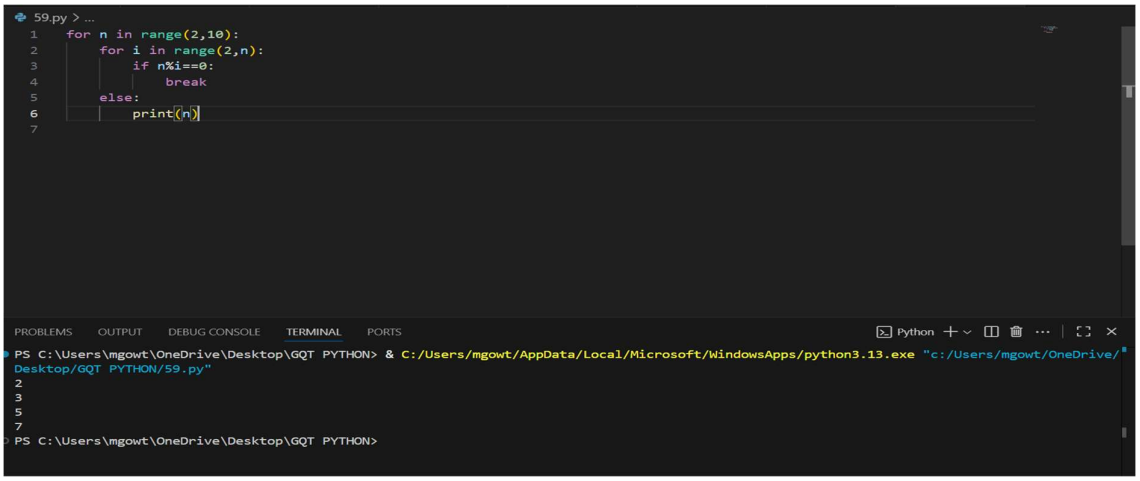
```
n = int(input("Enter number of rows: "))
for i in range(n):
    num = 1
    for j in range(i + 1):
        print(num, end=" ")
        num = num * (i - j) // (j + 1)
    print()
```

```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/57.py"
Enter number of rows: 5
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

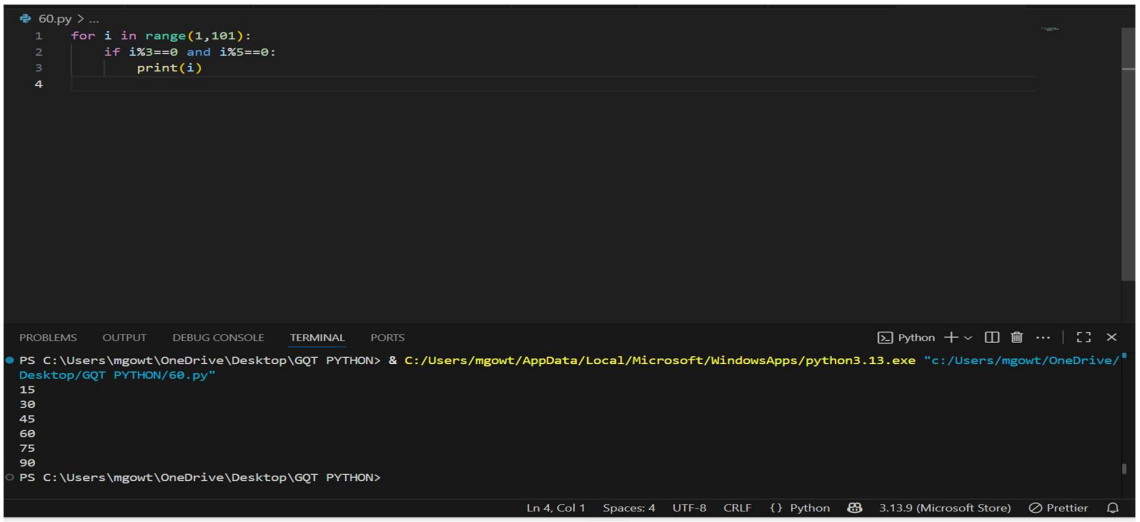
58. Write a Python Program to print Floyd's triangle.



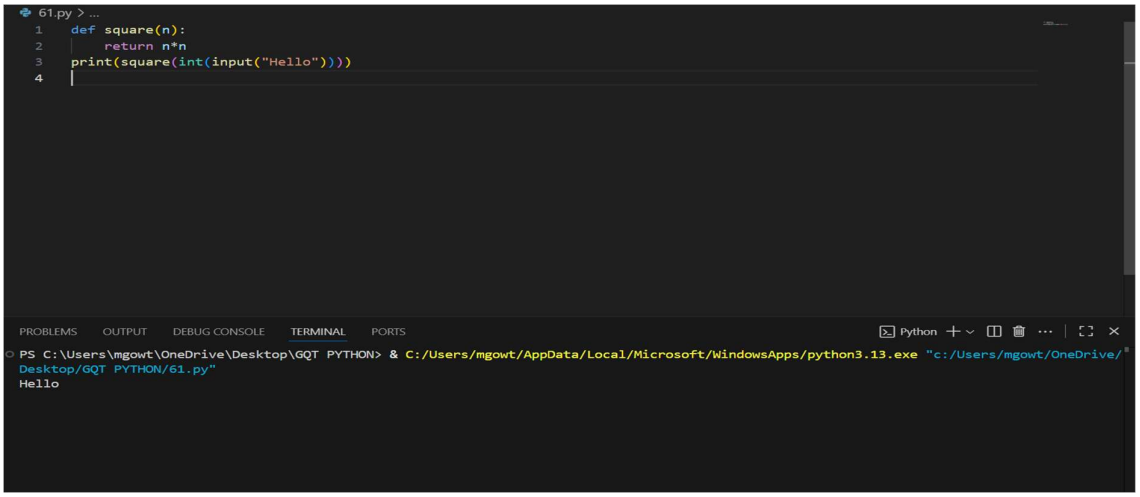
59. Write a Python Program to print prime numbers between 1 and 100.



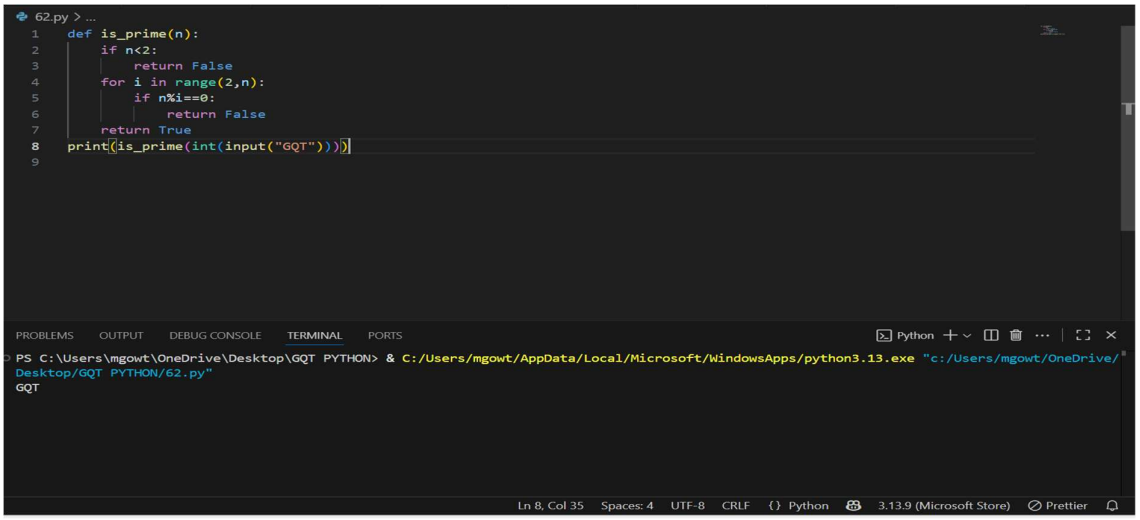
60. Write a Python Program to print numbers divisible by 3 and 5 up to 100.



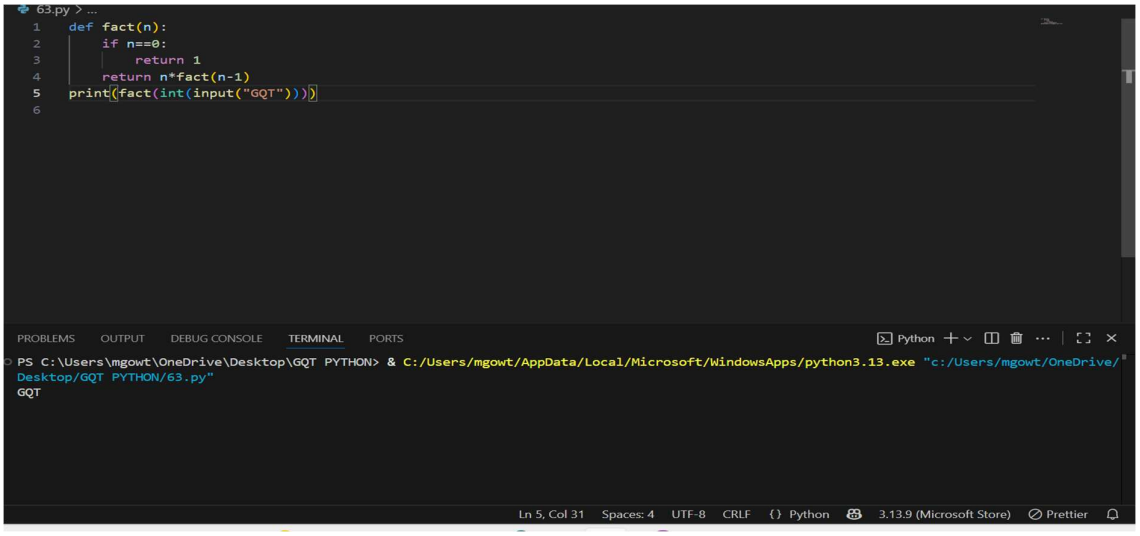
61. Write a Python Program to define a function that returns the square of a number.



62. Write a Python Program to define a function that checks if a number is prime.

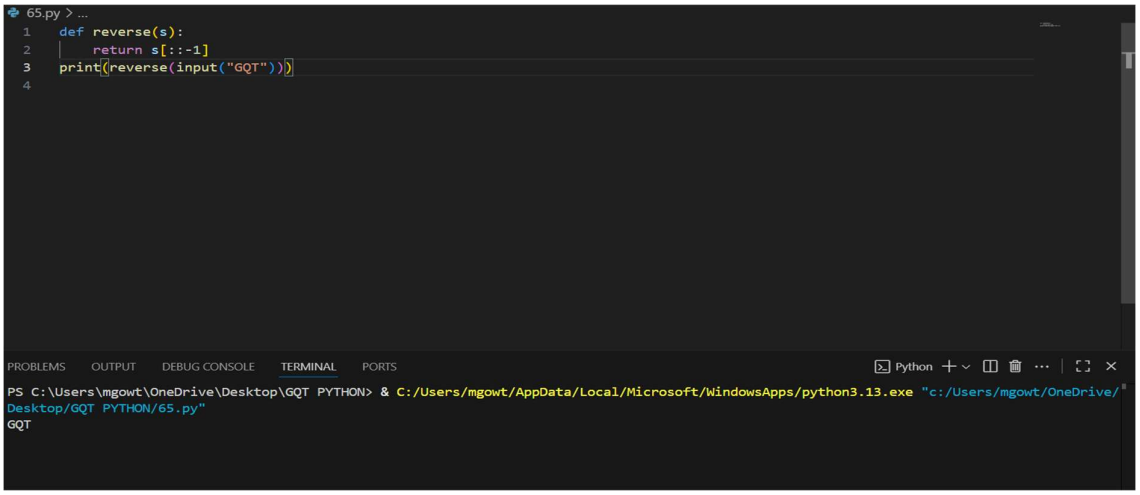


63. Write a Python Program to define a function that calculates factorial using recursion.

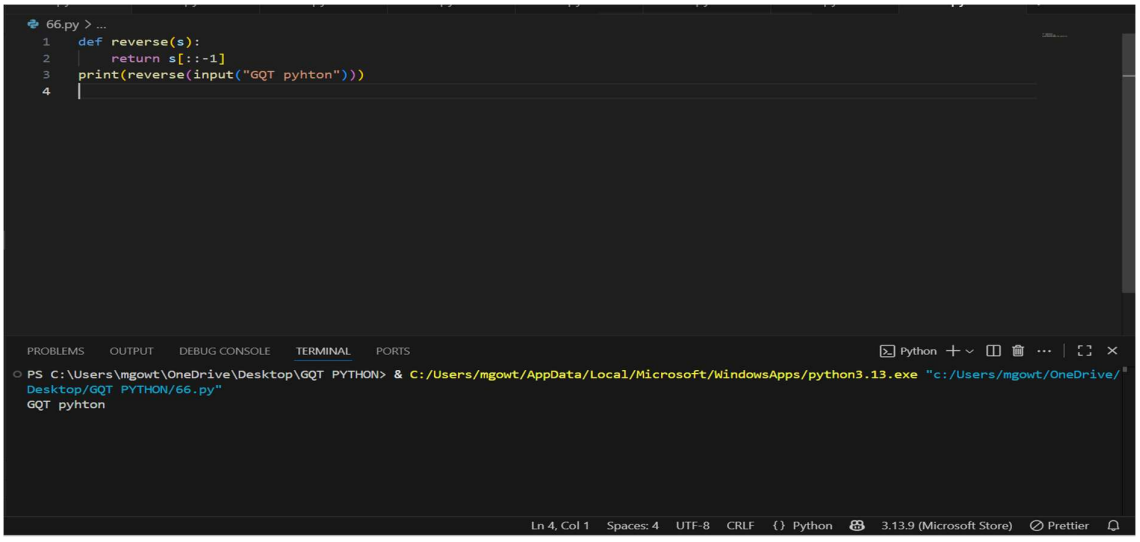


64. Write a Python Program to define a function that finds the maximum of three numbers.

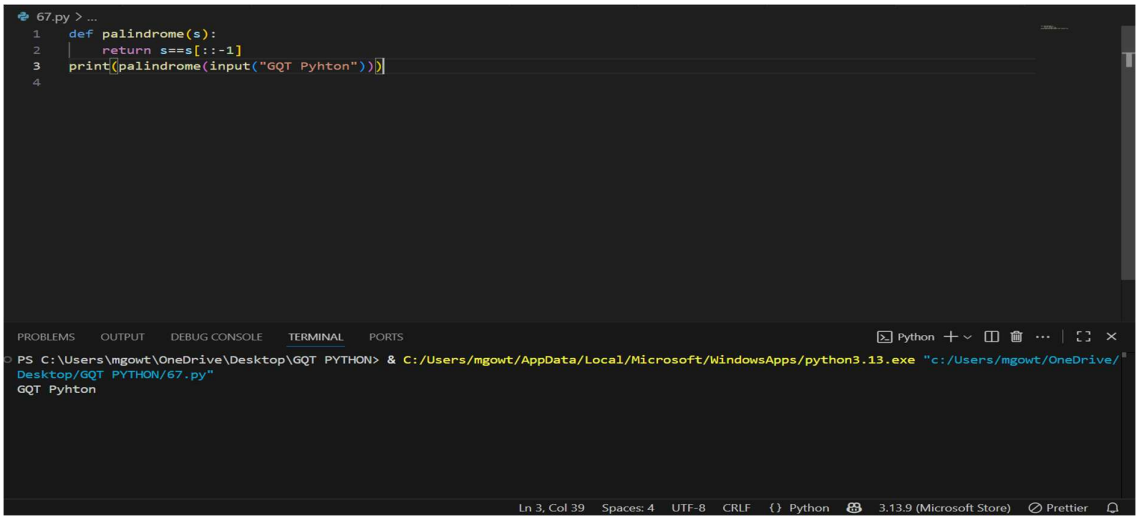
65. Write a Python Program to define a function that returns the reverse of a string.



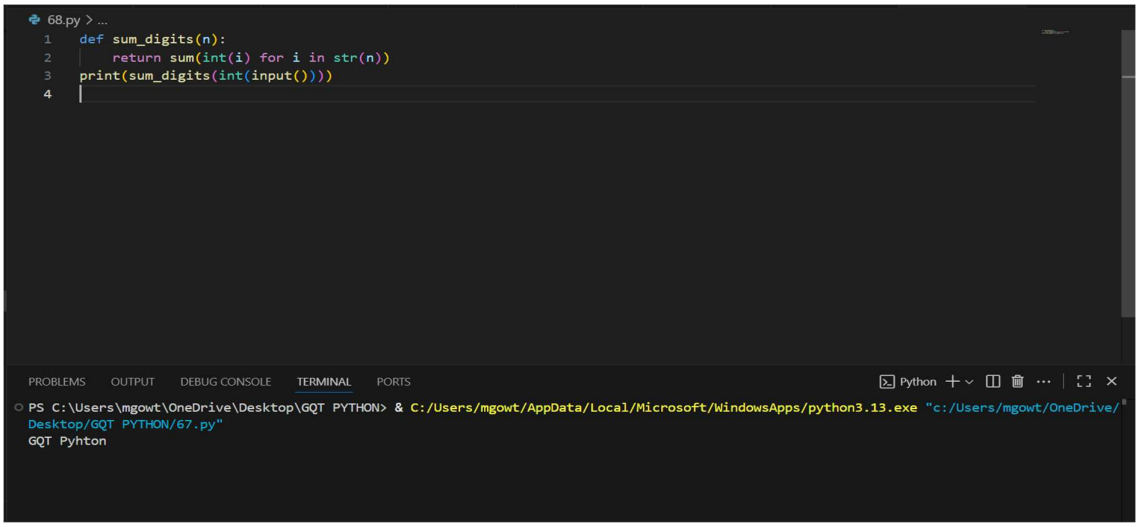
66. Write a Python Program to define a function that counts vowels in a string.



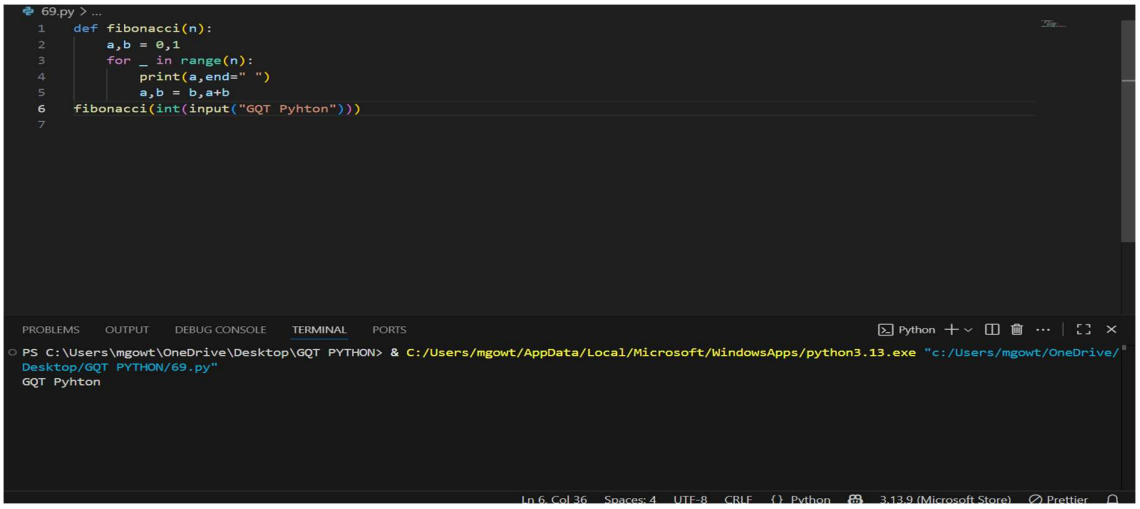
67. Write a Python Program to define a function that checks if a string is palindrome.



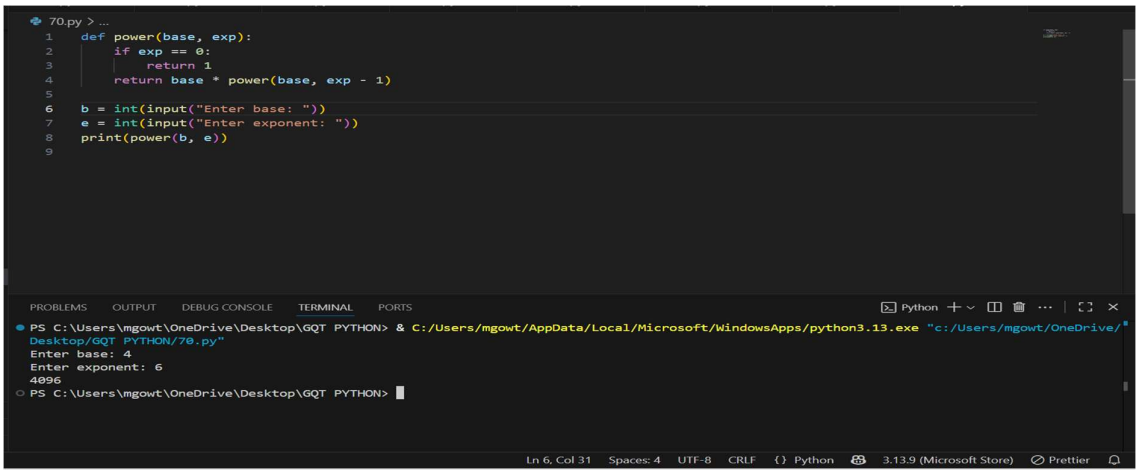
68. Write a Python Program to define a function that returns the sum of digits of a number.



69. Write a Python Program to define a function that generates Fibonacci series up to 'n'.

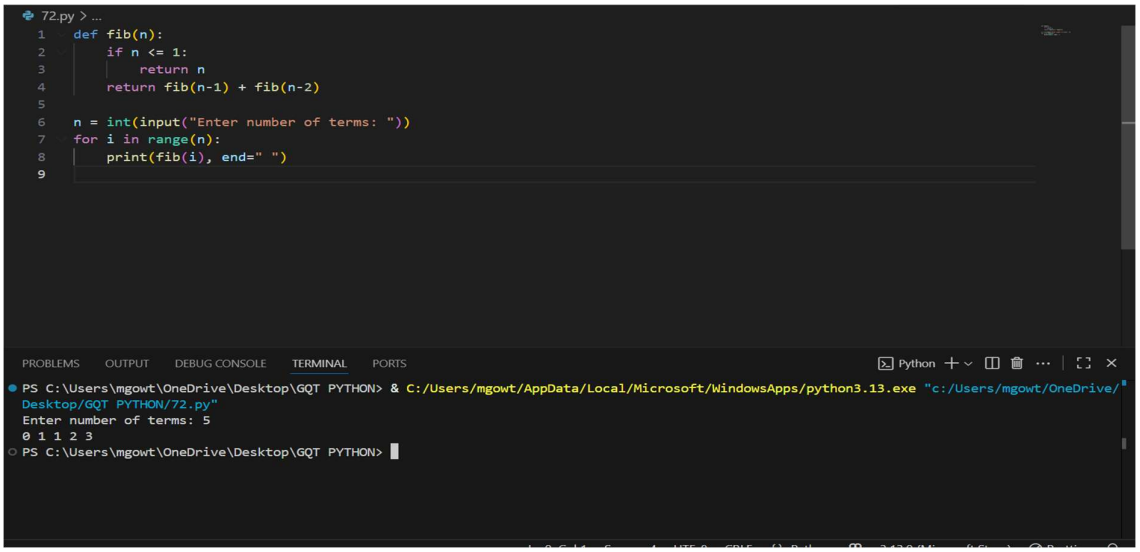


70. Write a Python Program to define a function that calculates power of a number using recursion.



71. Write a Python Program to calculate factorial using recursion.

72. Write a Python Program to generate Fibonacci series using recursion.



73. Write a Python Program to find the sum of natural numbers using recursion.

```python
def sum_n(n):
    if n == 0:
        return 0
    return n + sum_n(n-1)

n = int(input("Enter n: "))
print(sum_n(n))
```

```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/73.py"
Enter n: 5
15
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

74. Write a Python Program to reverse a string using recursion.

```python
def reverse(s):
    if s == "":
        return s
    return reverse(s[1:]) + s[0]

text = input("Enter string: ")
print(reverse(text))
```

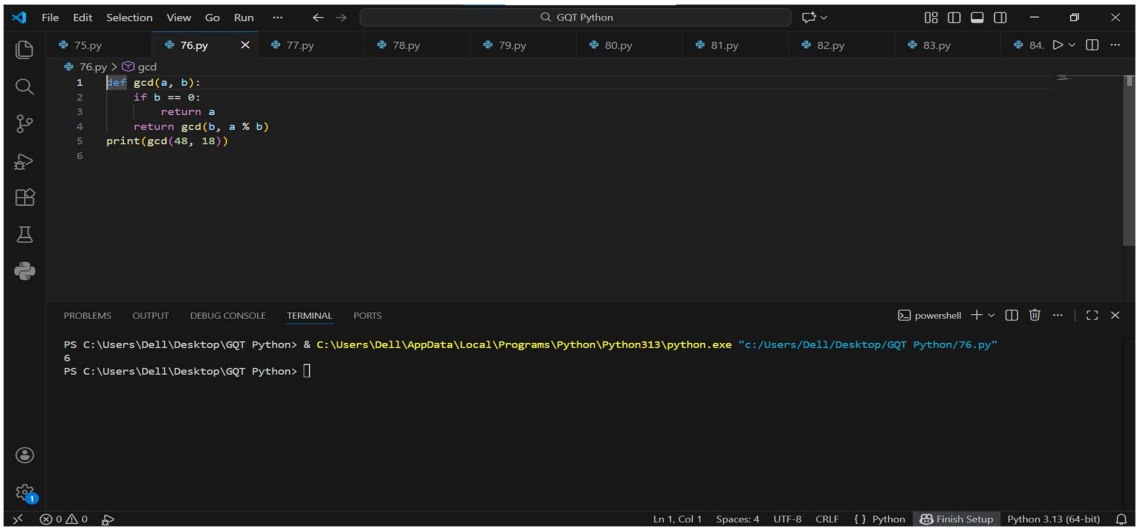
```
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON> & C:/Users/mgowt/AppData/Local/Microsoft/WindowsApps/python3.13.exe "c:/Users/mgowt/OneDrive/Desktop/GQT PYTHON/74.py"
Enter string: gqt
tqg
PS C:\Users\mgowt\OneDrive\Desktop\GQT PYTHON>
```

75. Write a Python Program to check if a string is palindrome using recursion.

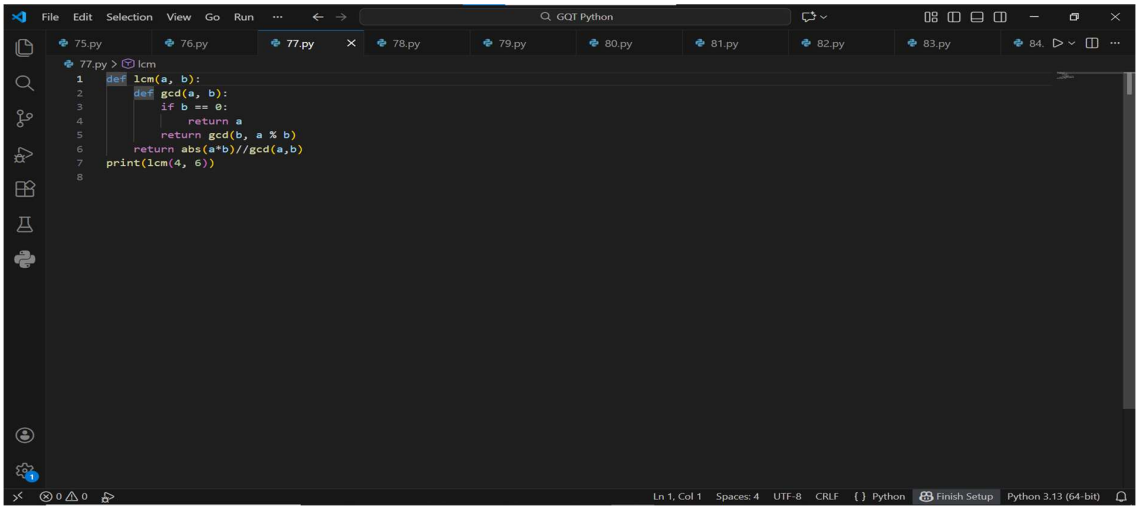
```python
def is_palindrome(s):
    if len(s) <= 1:
        return True
    if s[0] != s[-1]:
        ret (function) def is_palindrome(s: Any) -> (Any | bool)
    return is_palindrome(s[1:-1])
print(is_palindrome("radar"))
```

```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/75.py"
True
PS C:\Users\Dell\Desktop\GQT Python>
```

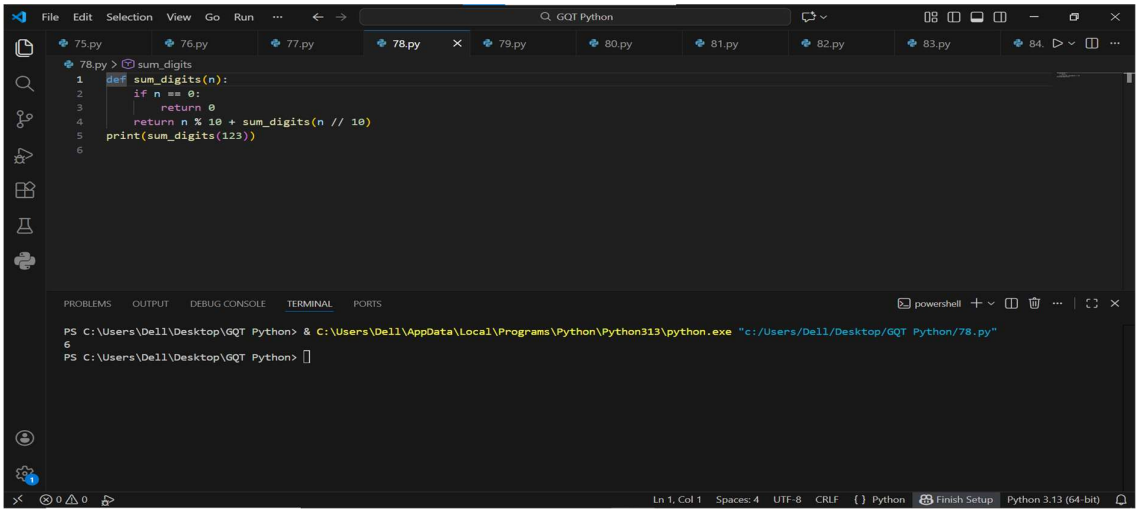
76. Write a Python Program to find GCD of two numbers using recursion.



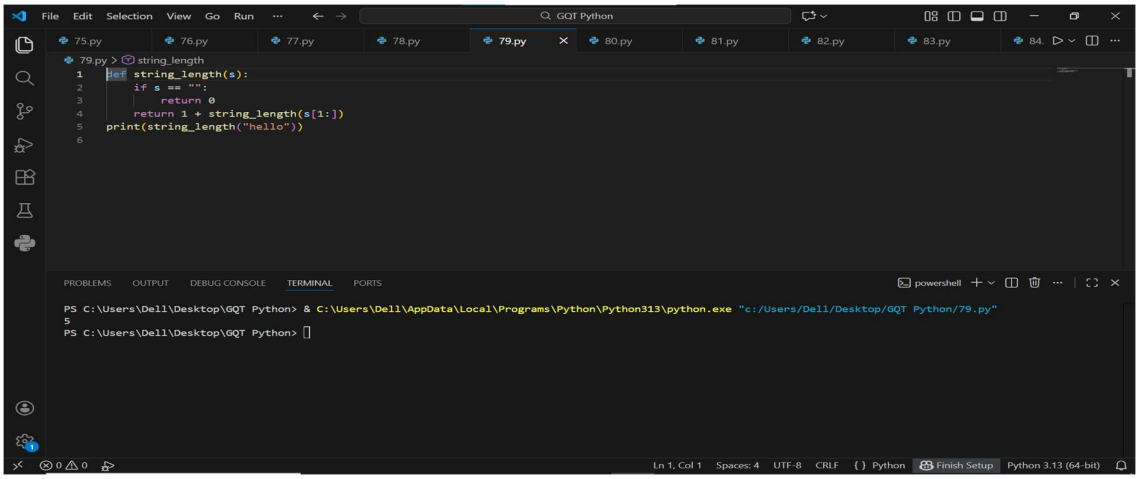
77. Write a Python Program to find LCM of two numbers using recursion.



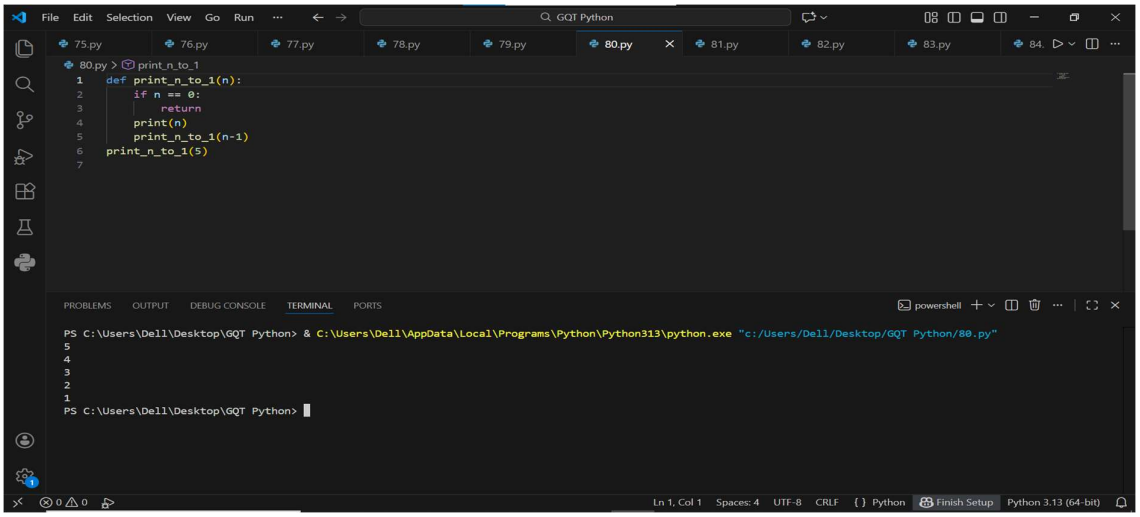
78. Write a Python Program to calculate sum of digits using recursion.



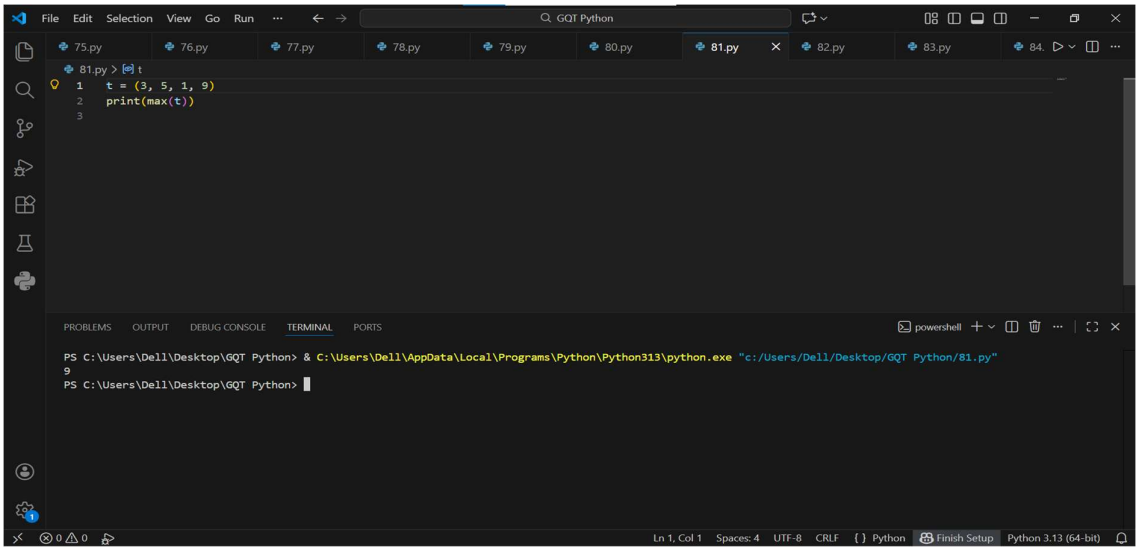
79. Write a Python Program to find the length of a string using recursion.



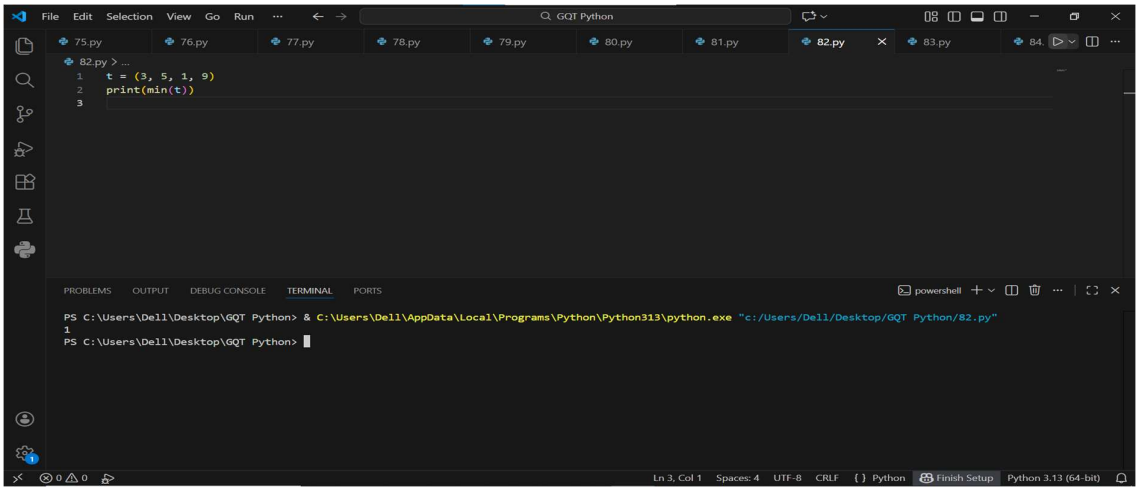
80. Write a Python Program to print numbers from 'n' to 1 using recursion.



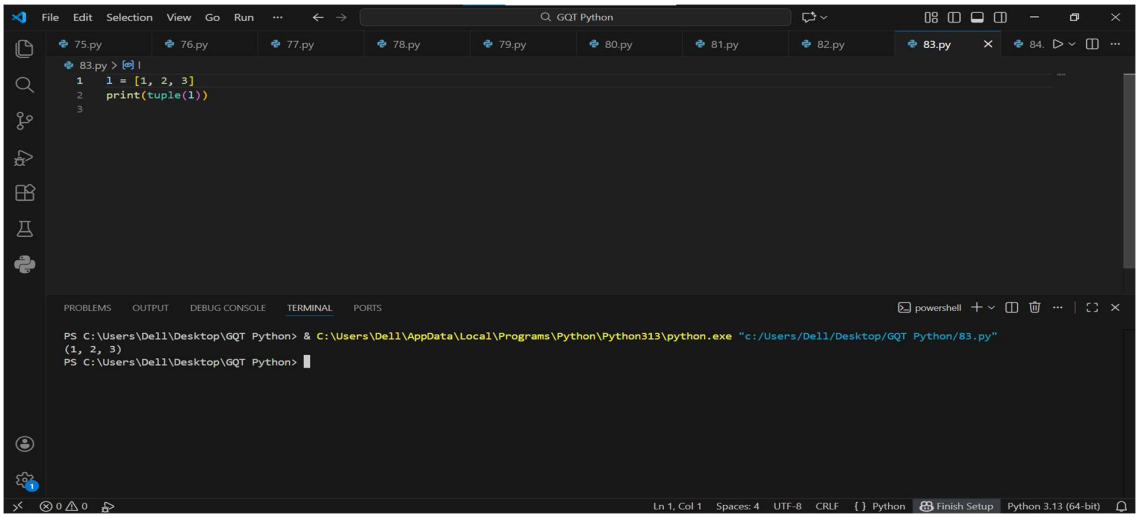
81. Write a Python Program to find the maximum element in a tuple.



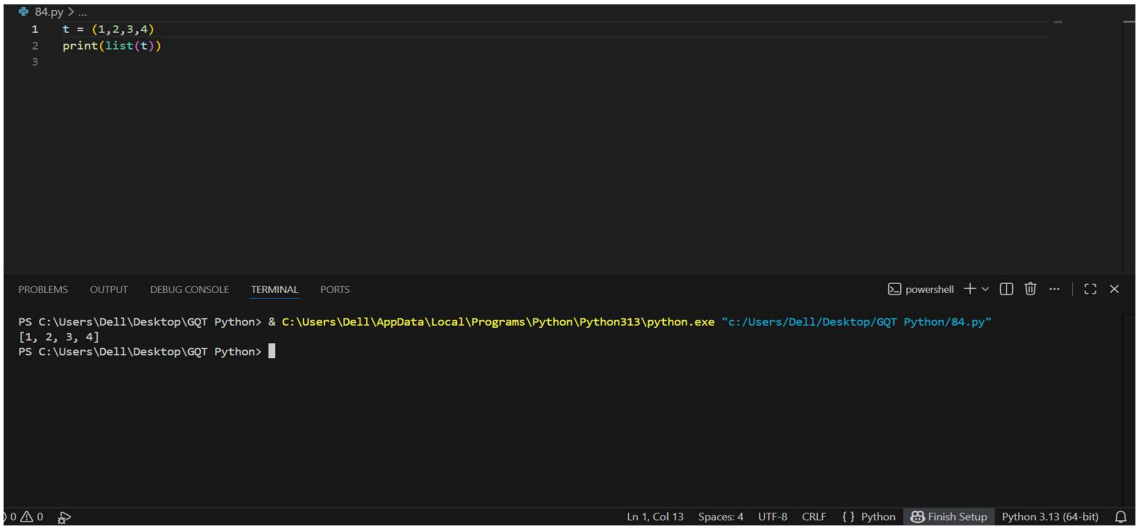
82. Write a Python Program to find the minimum element in a tuple.



83. Write a Python Program to convert a list into a tuple.



84. Write a Python Program to convert a tuple into a list.



85. Write a Python Program to find the union of two sets.

```
a = {1,2,3}
b = {3,4,5}
print(a | b)
```

```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/85.py"
{1, 2, 3, 4, 5}
PS C:\Users\Dell\Desktop\GQT Python>
```

86. Write a Python Program to find the intersection of two sets.

```
year = 2024
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print("Leap year")
else:
    print("Not leap year")
```

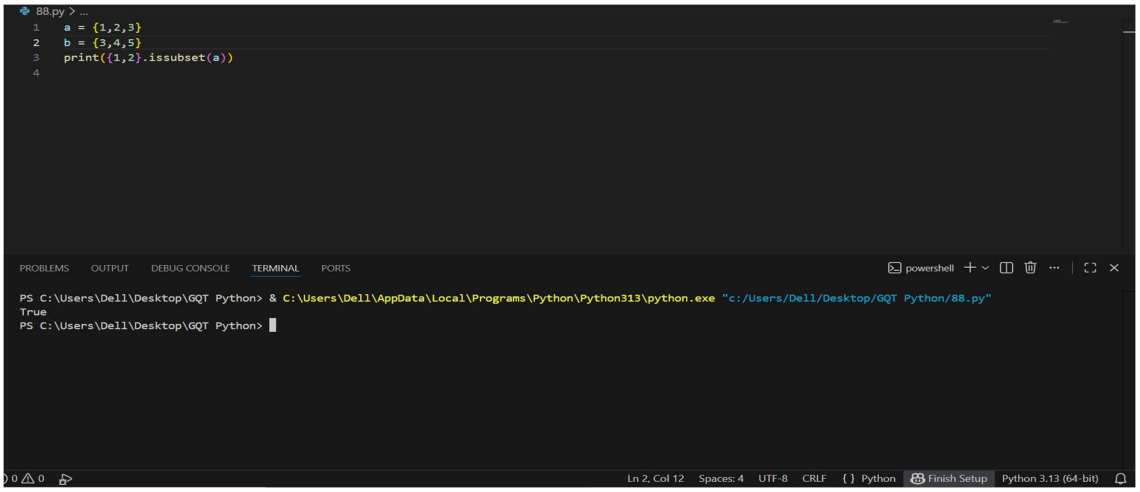
```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/111.py"
Leap year
PS C:\Users\Dell\Desktop\GQT Python>
```

87. Write a Python Program to find the difference of two sets.

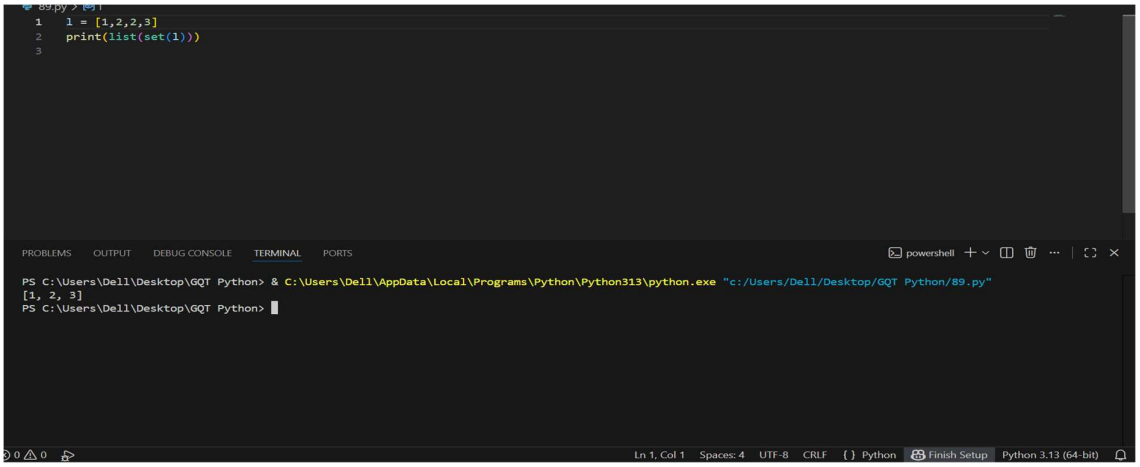
```
a = {1,2,3}
b = {3,4,5}
print(a - b)
```

```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/87.py"
{1, 2}
PS C:\Users\Dell\Desktop\GQT Python>
```

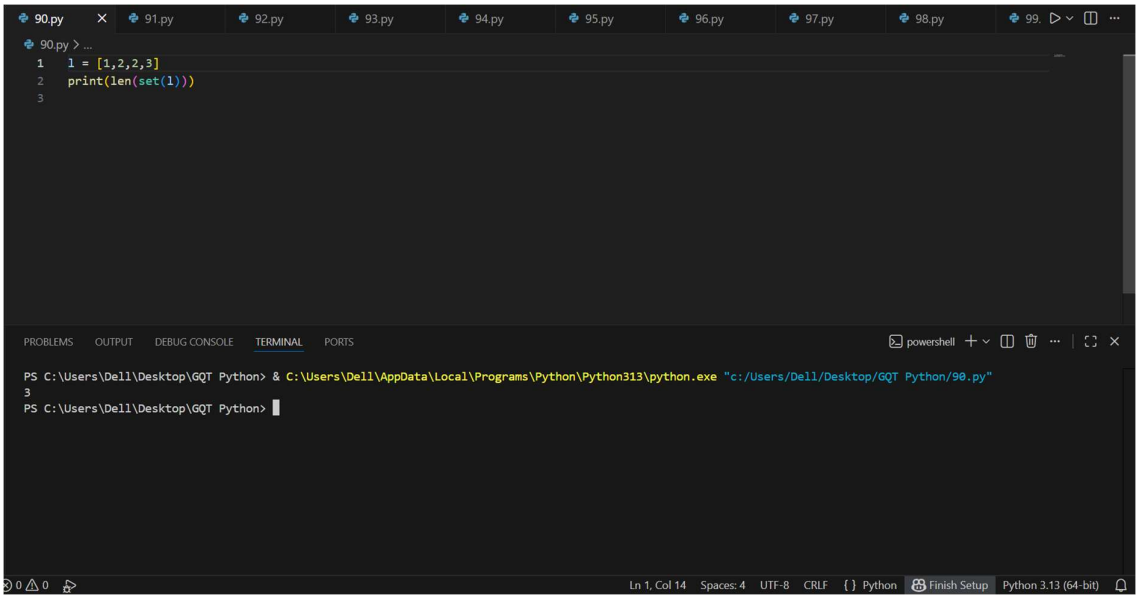
88. Write a Python Program to check if a set is subset of another set.



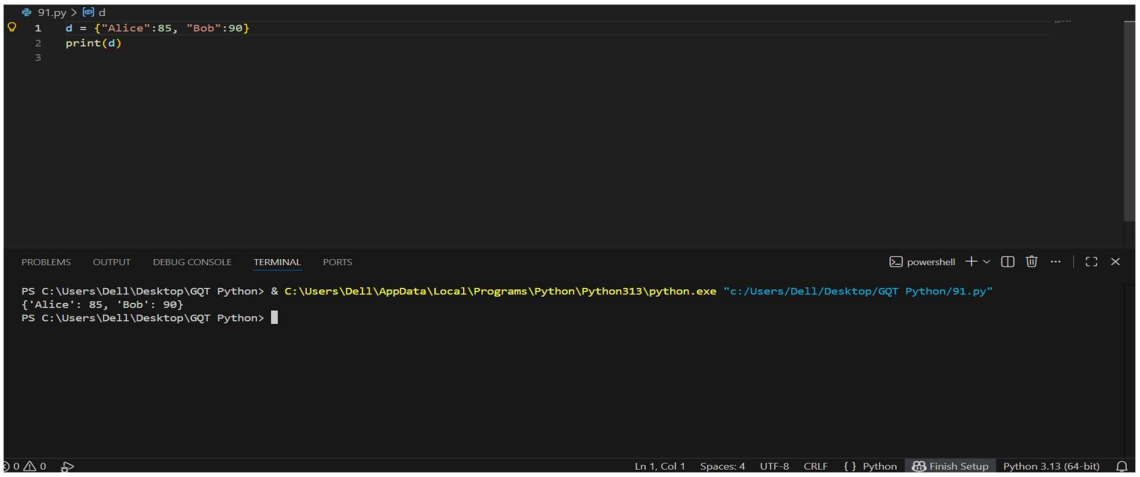
89. Write a Python Program to remove duplicates from a list using set.



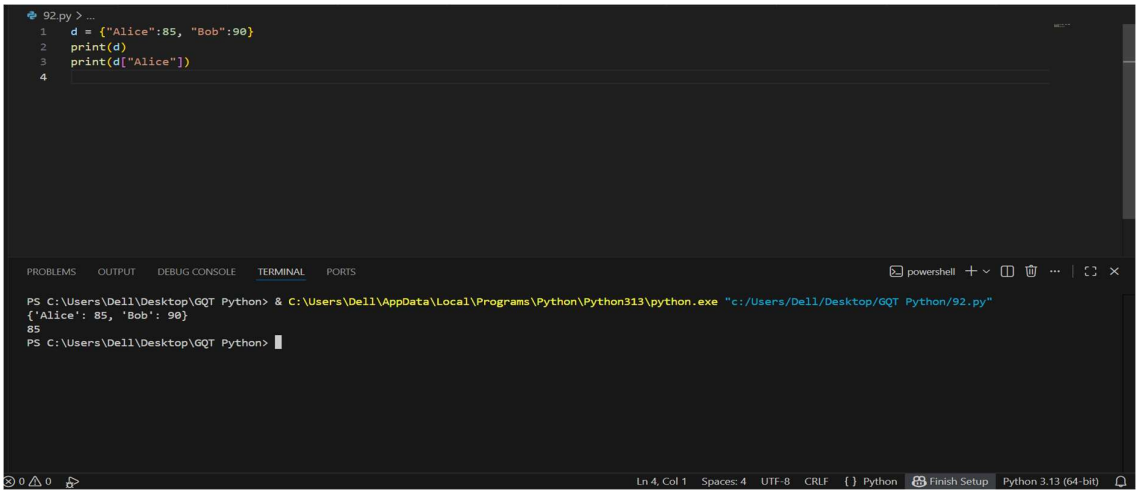
90. Write a Python Program to count unique elements in a list using set.



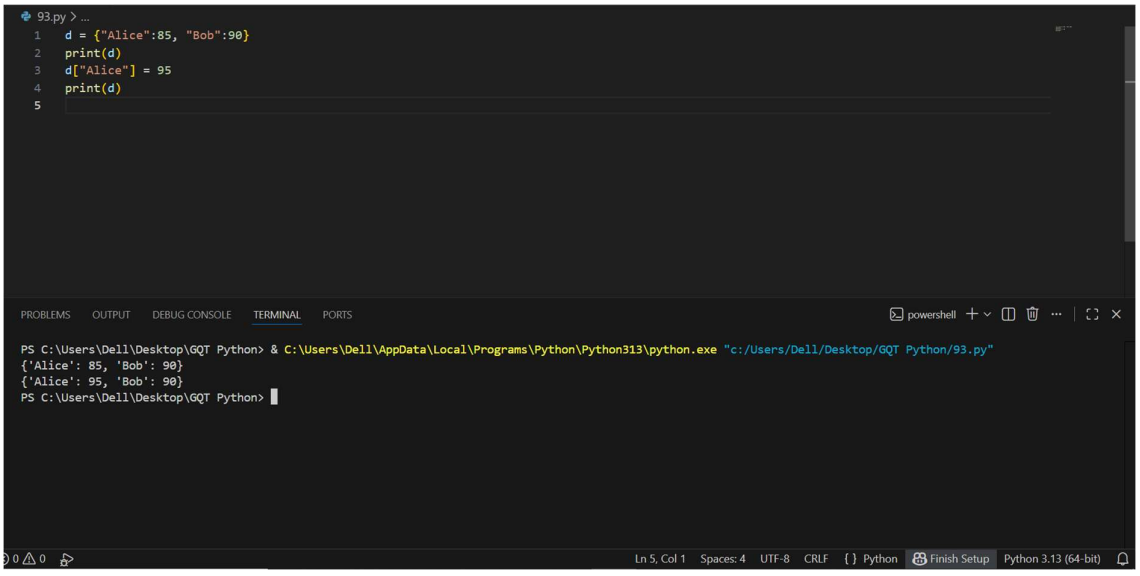
91. Write a Python Program to create a dictionary of student names and marks.



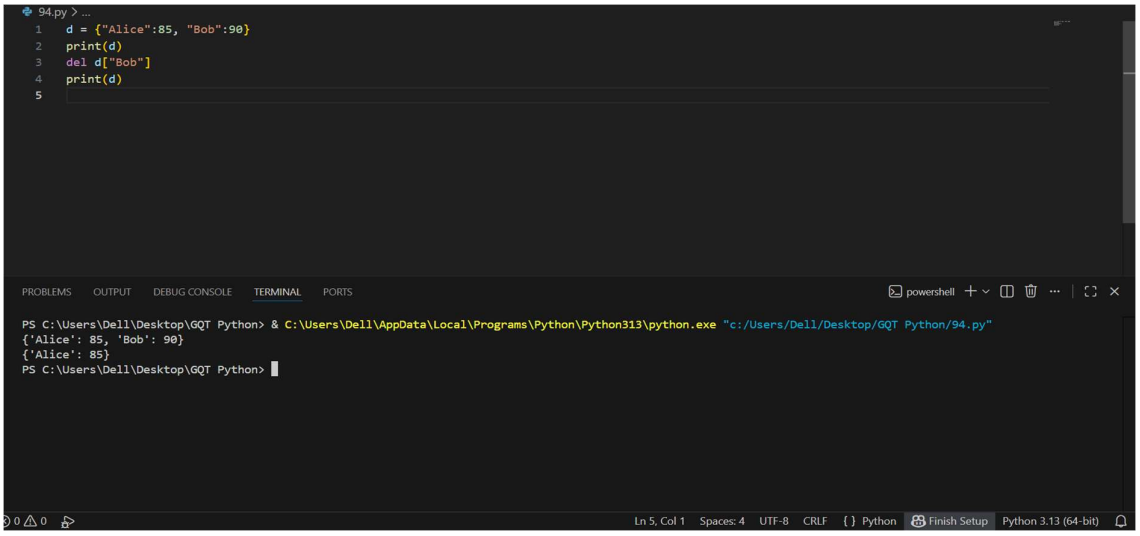
92. Write a Python Program to access values from a dictionary.



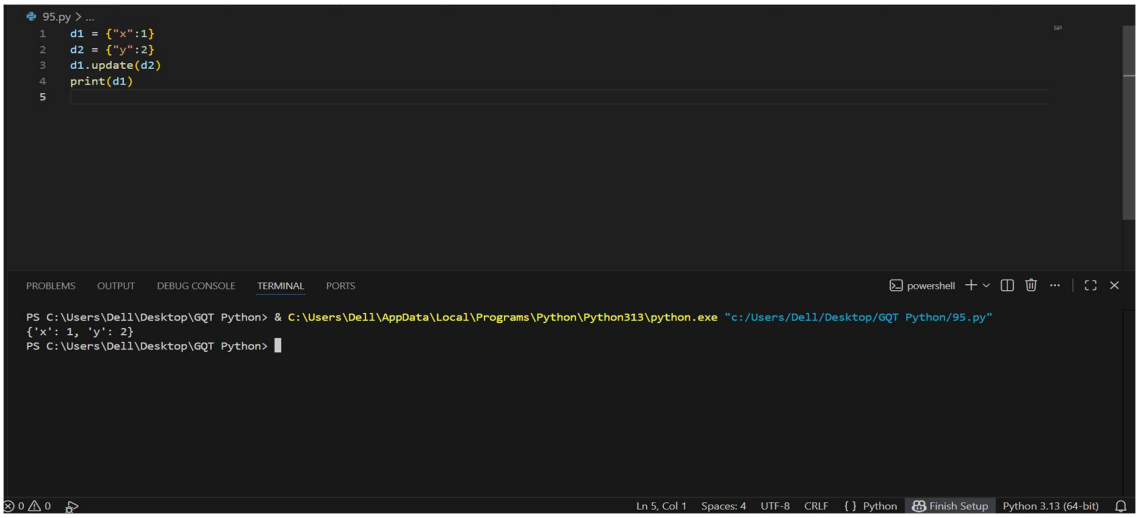
93. Write a Python Program to update values in a dictionary.



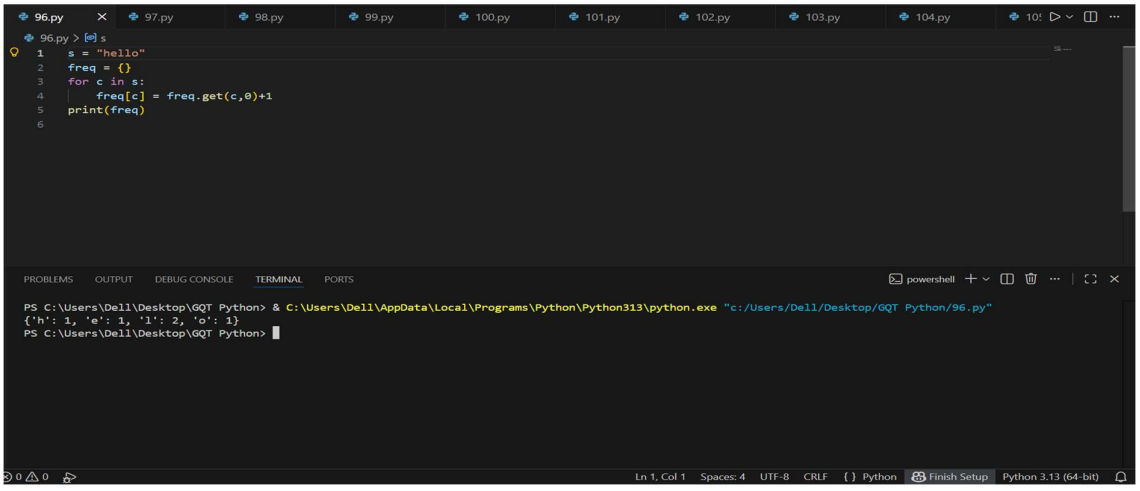
94. Write a Python Program to delete a key from a dictionary.



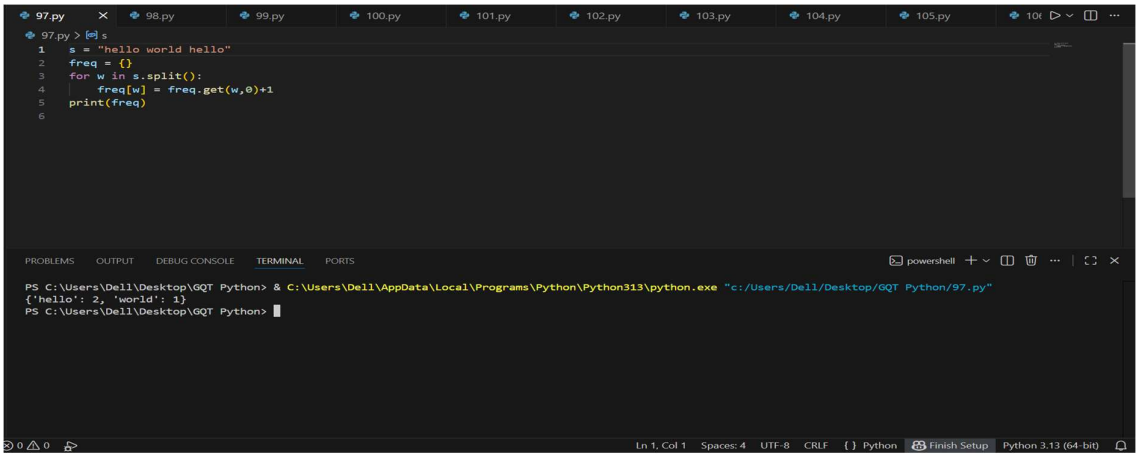
95. Write a Python Program to merge two dictionaries.



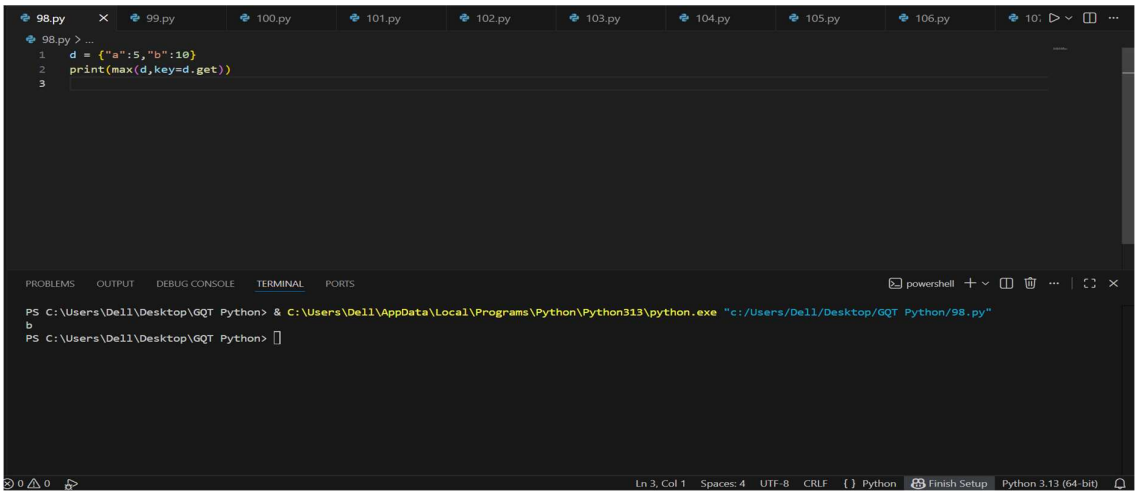
96. Write a Python Program to count frequency of characters in a string using dictionary.



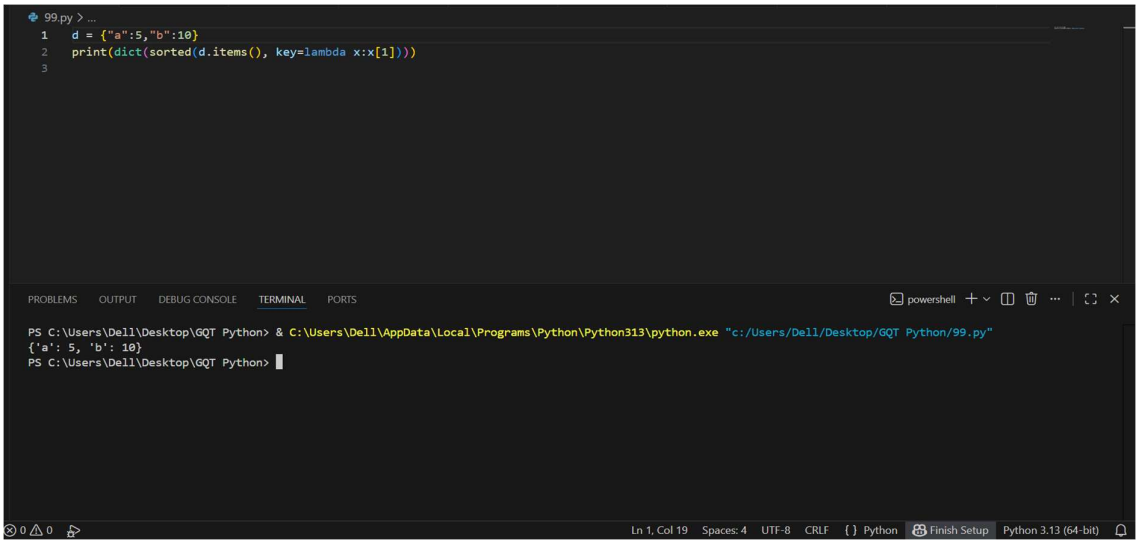
97. Write a Python Program to count frequency of words in a sentence using dictionary.



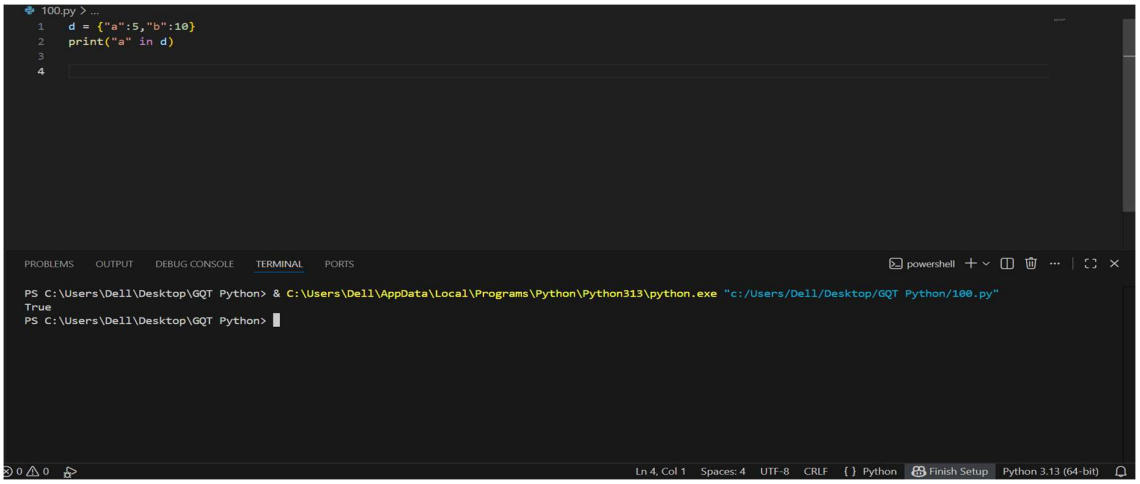
98. Write a Python Program to find the key with maximum value in a dictionary.



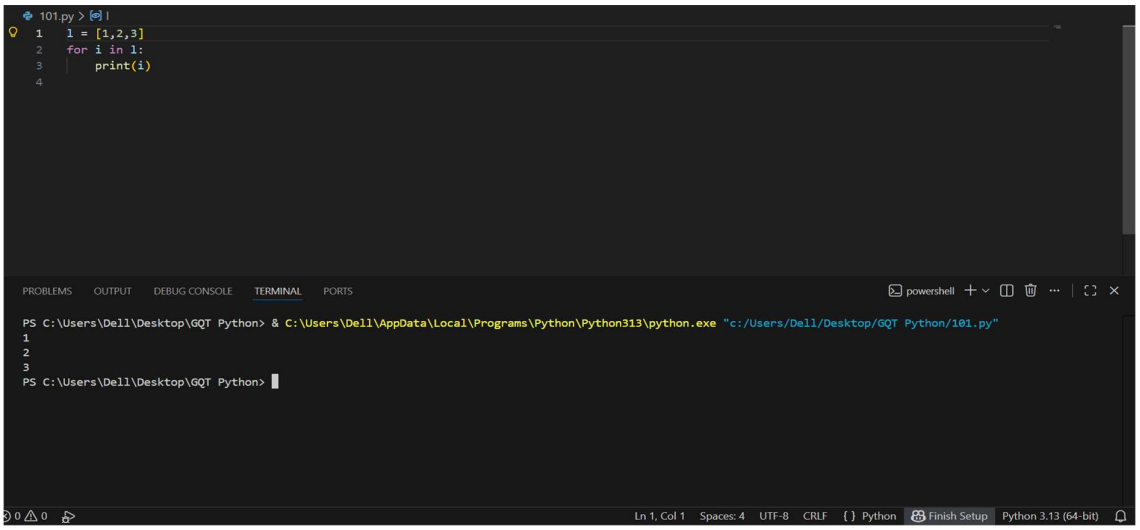
99. Write a Python Program to sort a dictionary by values.



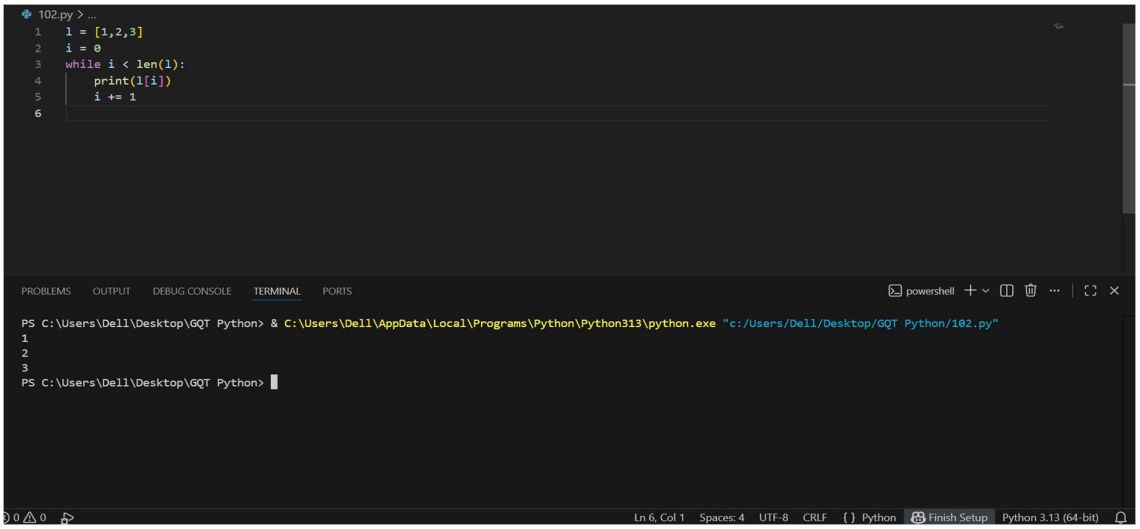
100. Write a Python Program to check if a key exists in a dictionary.



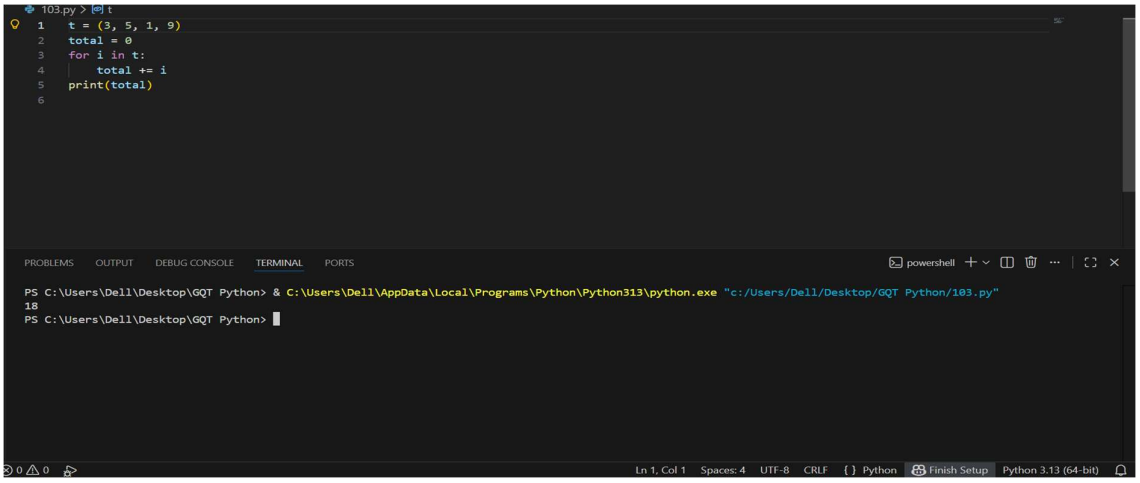
101. Write a Python Program to iterate over a list using 'for' loop.



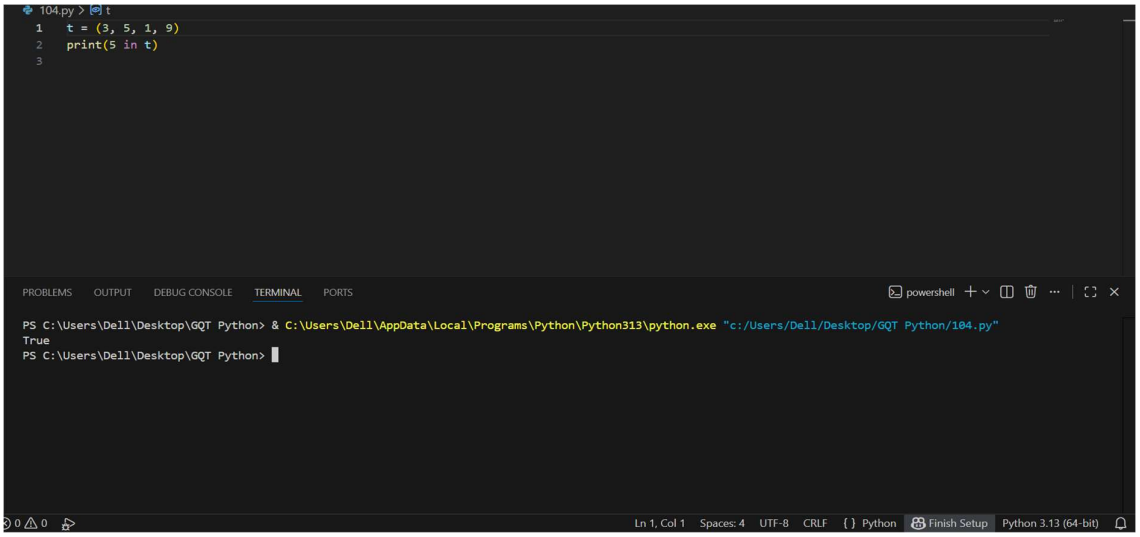
102. Write a Python Program to iterate over a list using 'while' loop.



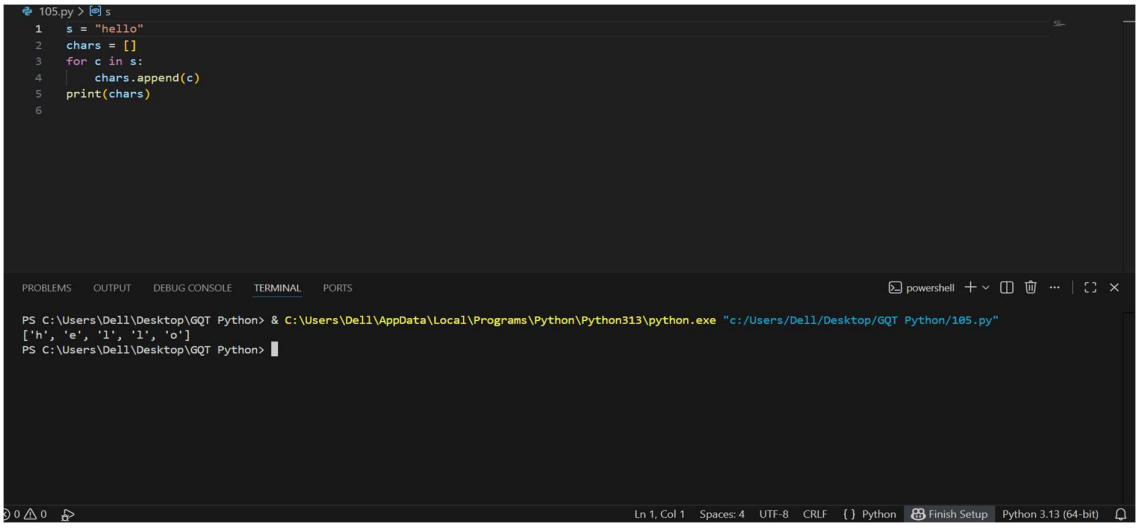
103. Write a Python Program to find the sum of elements in a tuple.



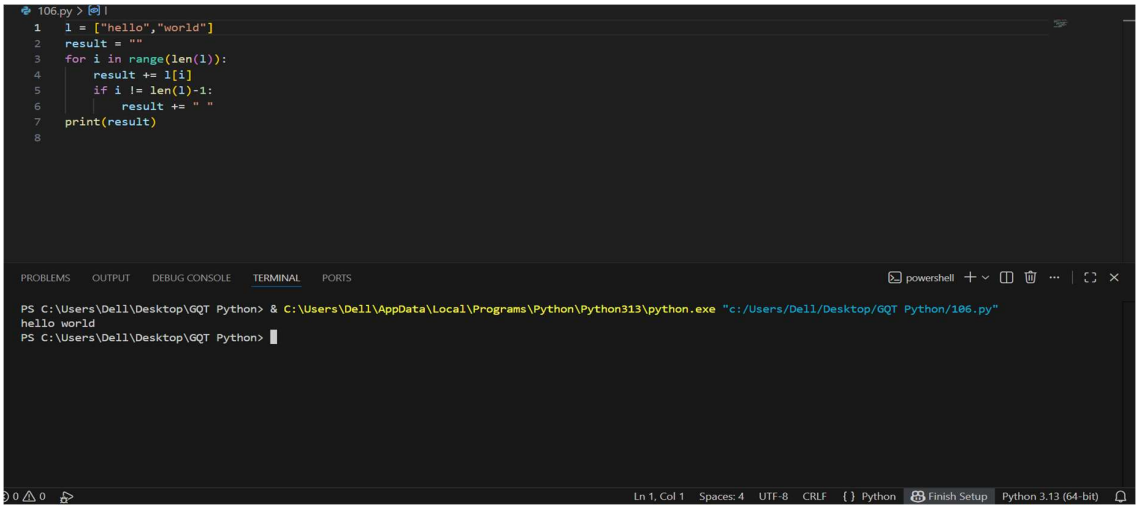
104. Write a Python Program to check if an element exists in a tuple.



105. Write a Python Program to convert a string into a list of characters.



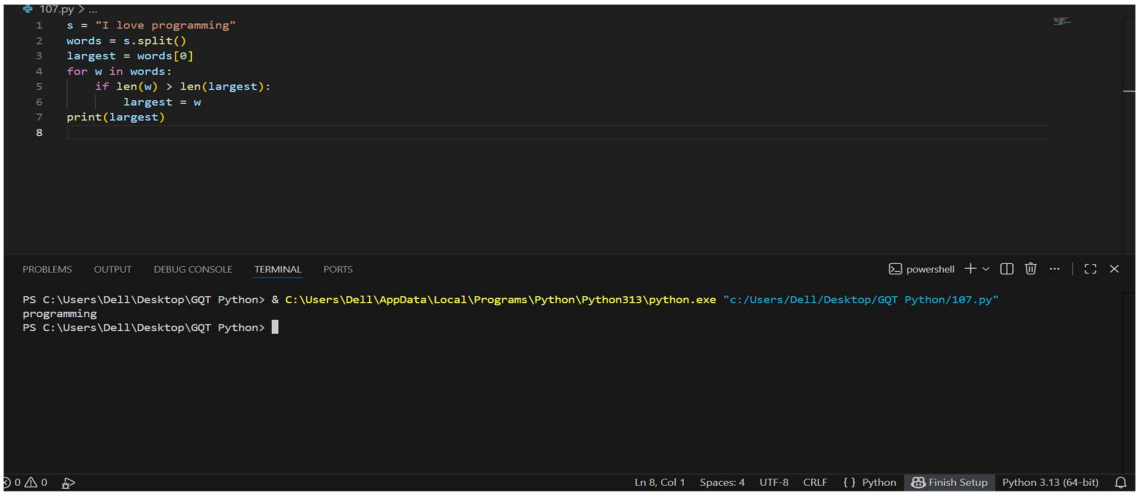
106. Write a Python Program to join a list of strings into a single string.



```
l = ["hello","world"]
result = ""
for i in range(len(l)):
    result += l[i]
    if i != len(l)-1:
        result += " "
print(result)
```

```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/106.py"
hello world
PS C:\Users\Dell\Desktop\GQT Python>
```

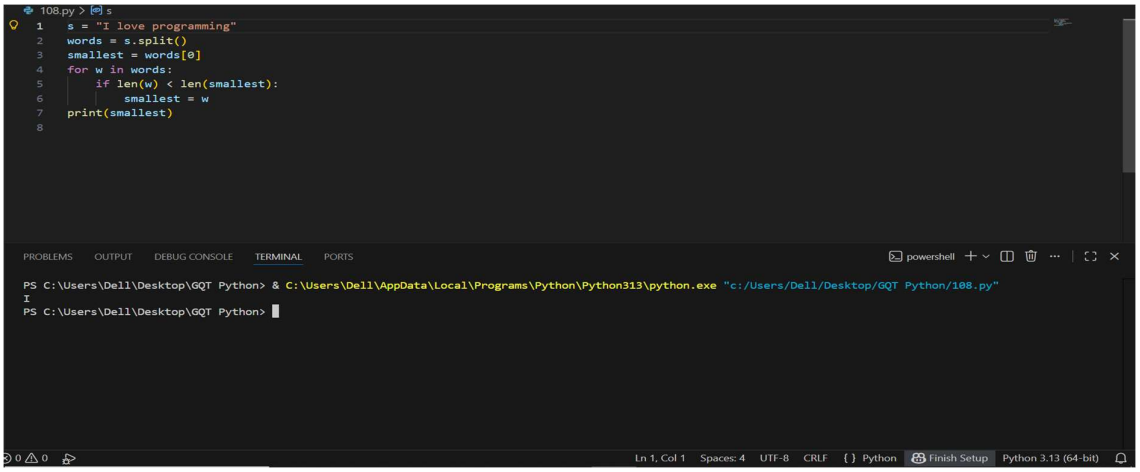
107. Write a Python Program to find the largest word in a sentence.



```
s = "I love programming"
words = s.split()
largest = words[0]
for w in words:
    if len(w) > len(largest):
        largest = w
print(largest)
```

```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/107.py"
programming
PS C:\Users\Dell\Desktop\GQT Python>
```

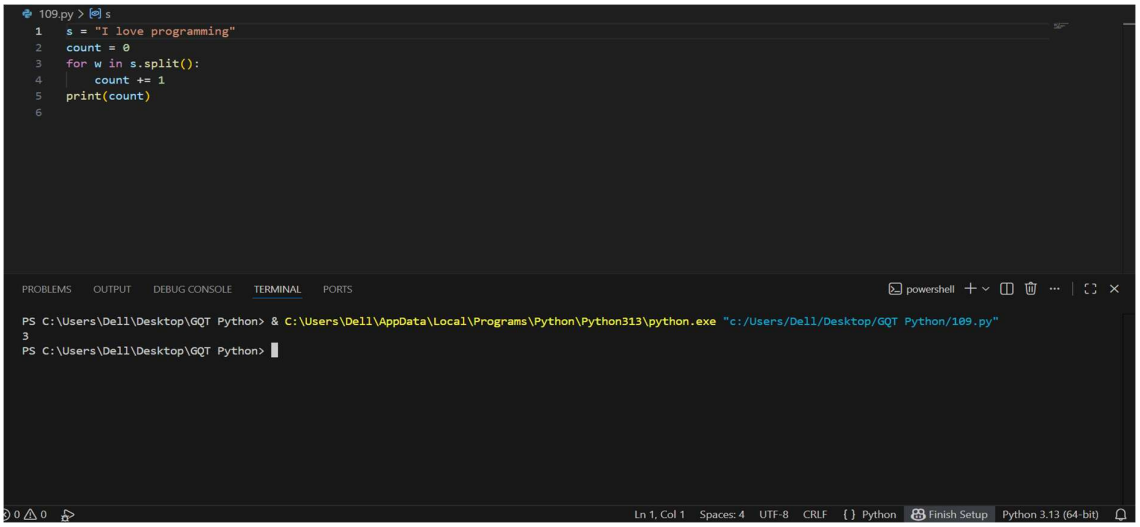
108. Write a Python Program to find the smallest word in a sentence.



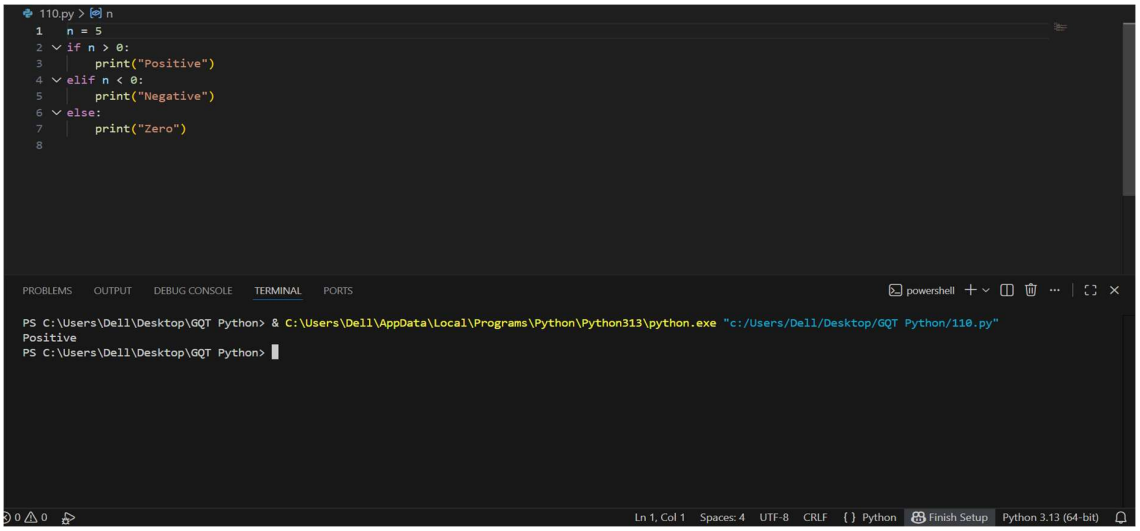
```
s = "I love programming"
words = s.split()
smallest = words[0]
for w in words:
    if len(w) < len(smallest):
        smallest = w
print(smallest)
```

```
PS C:\Users\Dell\Desktop\GQT Python> & C:\Users\Dell\AppData\Local\Programs\Python\Python313\python.exe "c:/Users/Dell/Desktop/GQT Python/108.py"
I
PS C:\Users\Dell\Desktop\GQT Python>
```

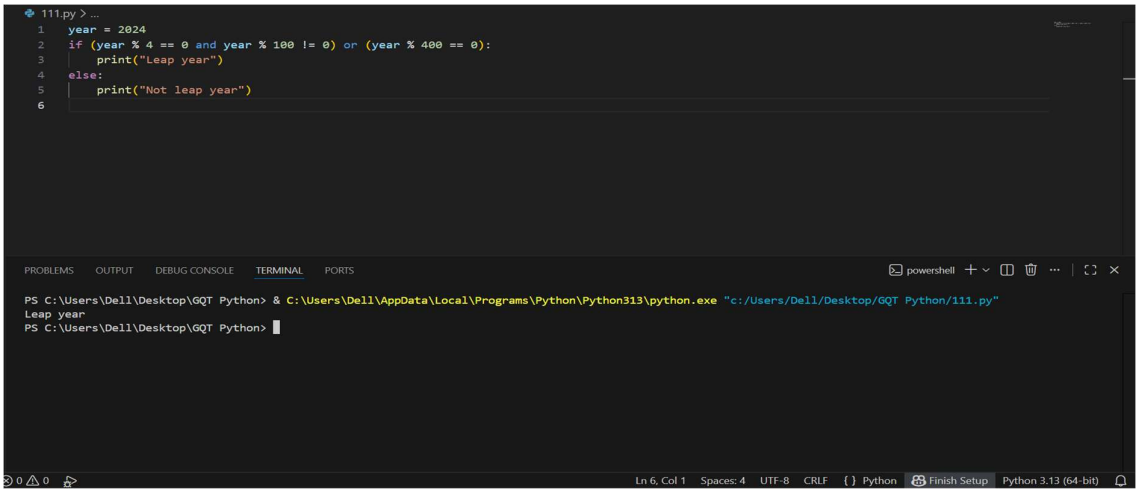
109. Write a Python Program to count the number of words in a sentence.



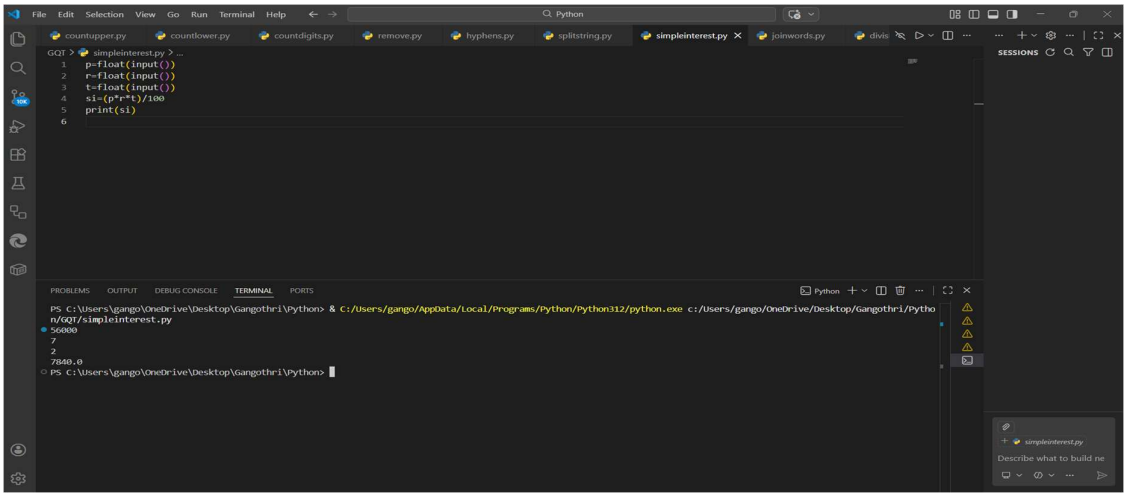
110. Write a Python Program to check if a number is positive, negative, or zero.



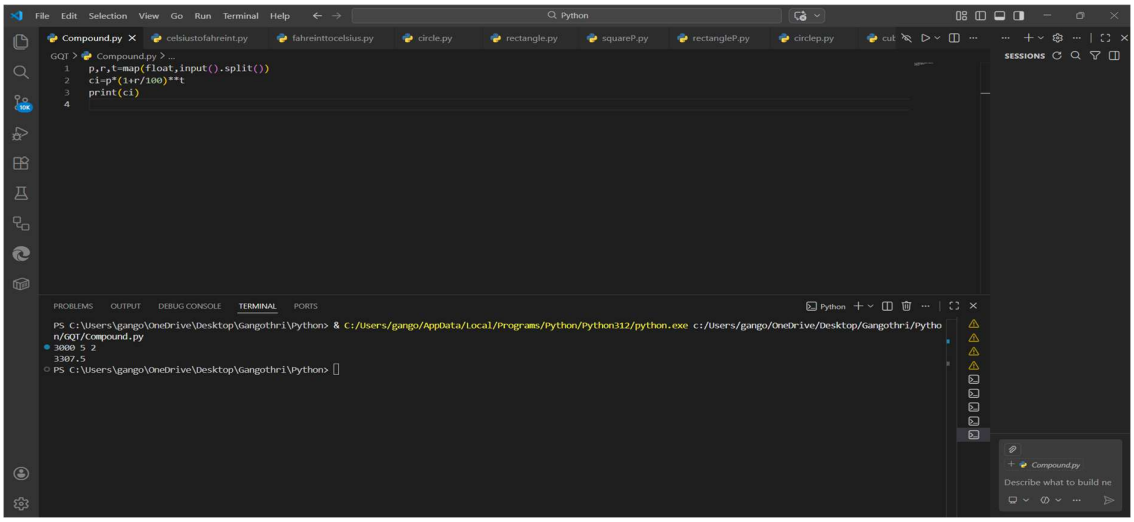
111. Write a Python Program to check if a year is a leap year.



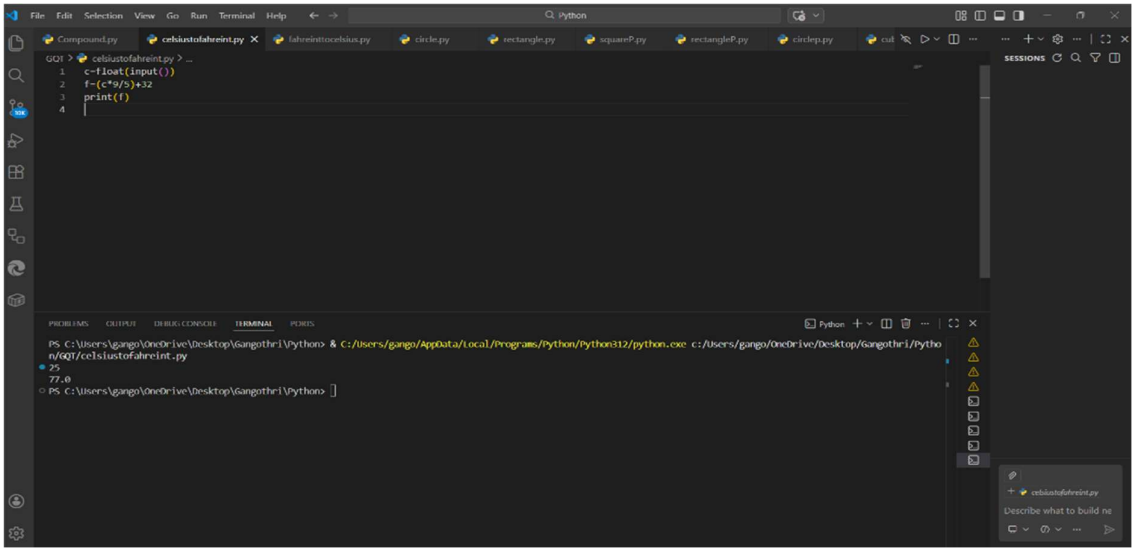
112. Write a Python Program to calculate simple interest.



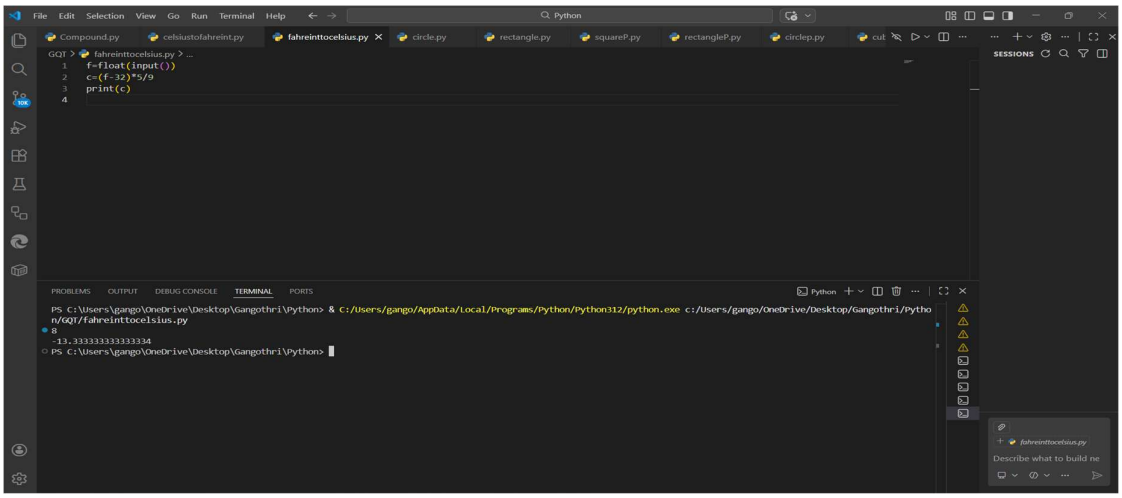
113. Write a Python Program to calculate compound interest.



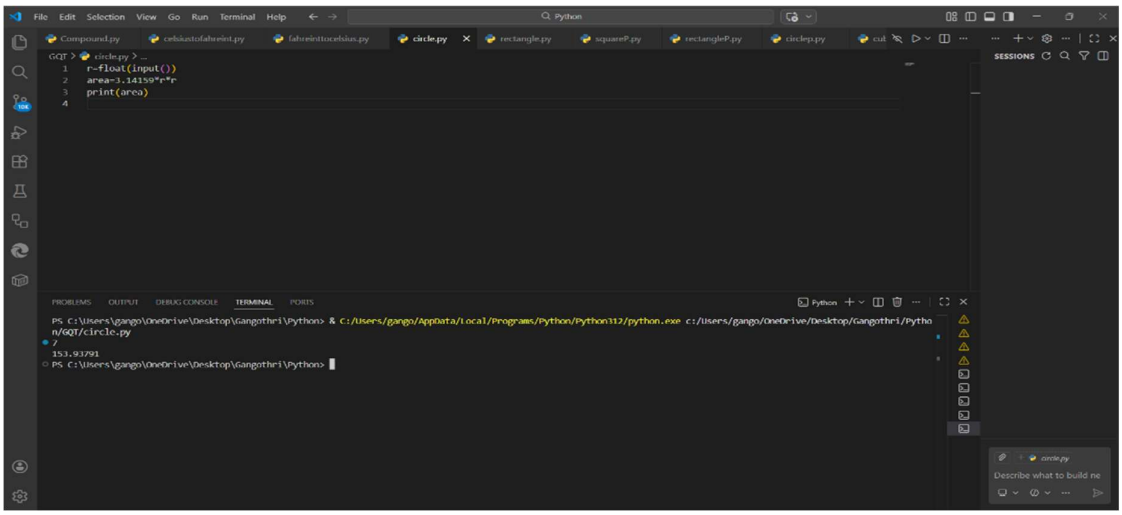
114. Write a Python Program to convert Celsius to Fahrenheit.



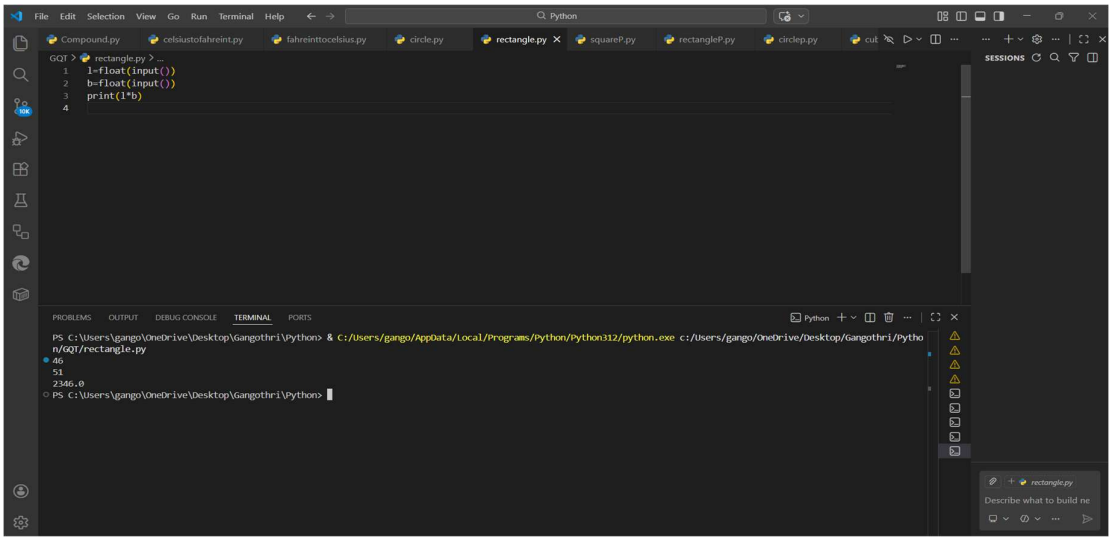
115. Write a Python Program to convert Fahrenheit to Celsius.



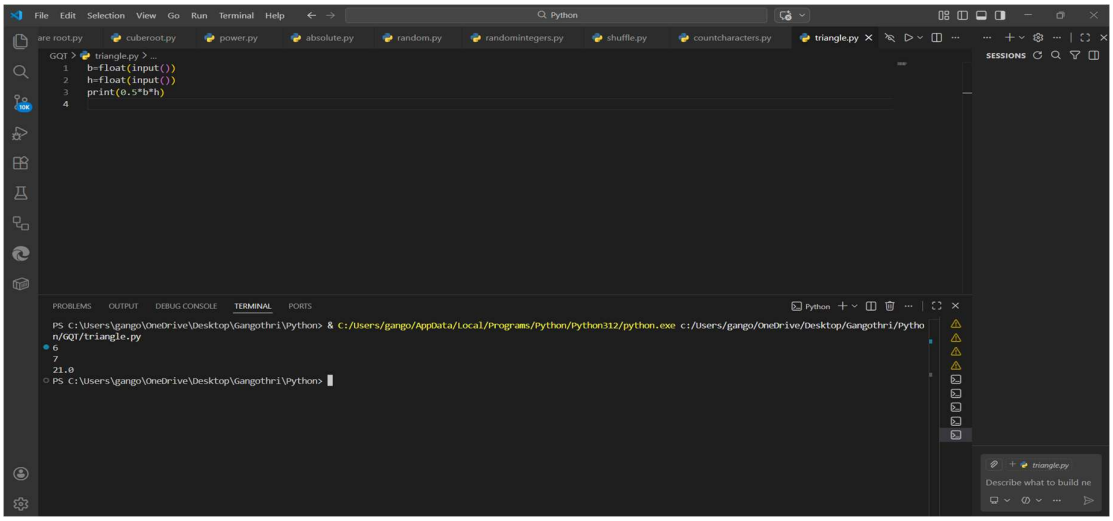
116. Write a Python Program to calculate area of a circle.



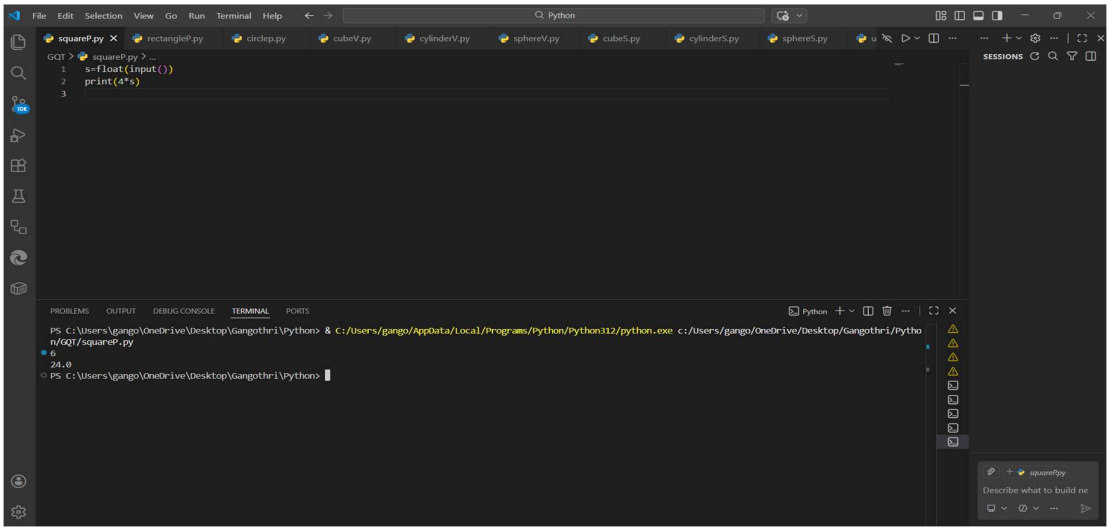
117. Write a Python Program to calculate area of a rectangle.



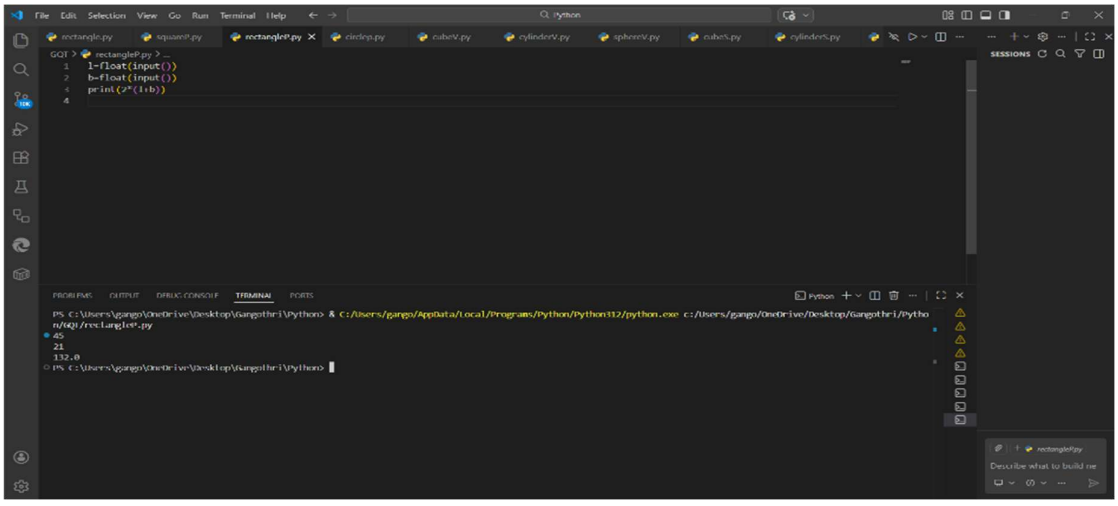
118. Write a Python Program to calculate area of a triangle.



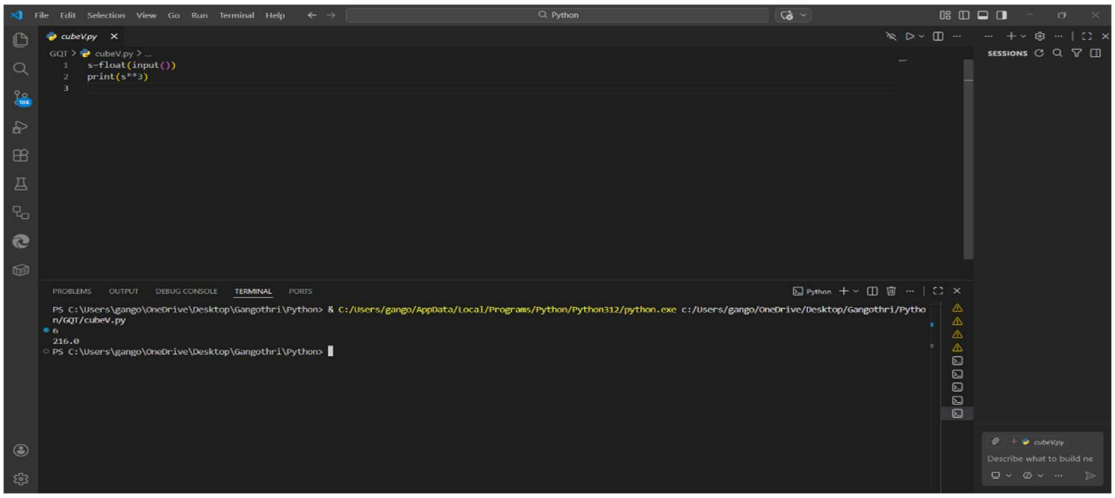
119. Write a Python Program to calculate perimeter of a square.



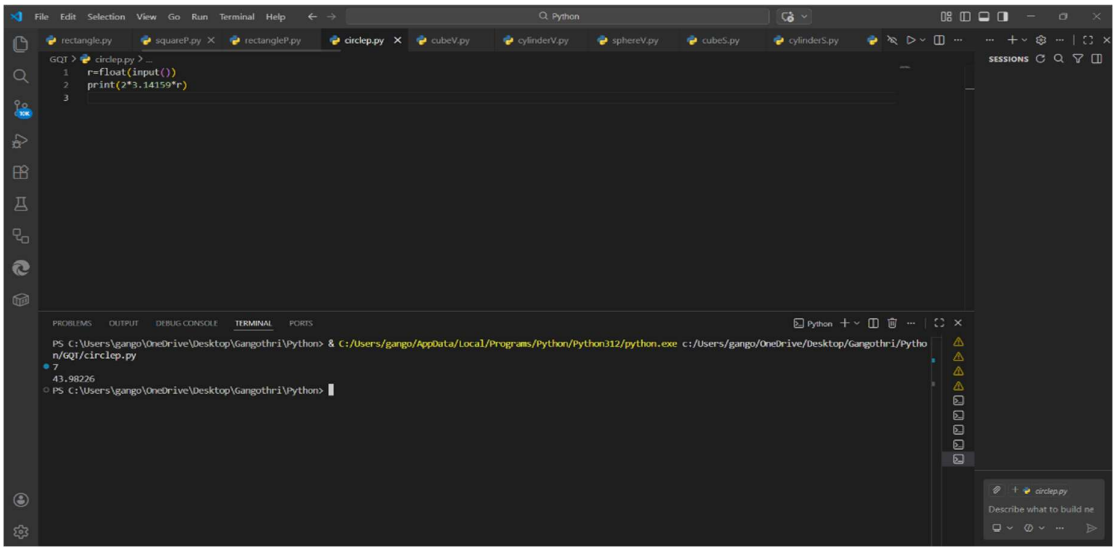
120. Write a Python Program to calculate perimeter of a rectangle



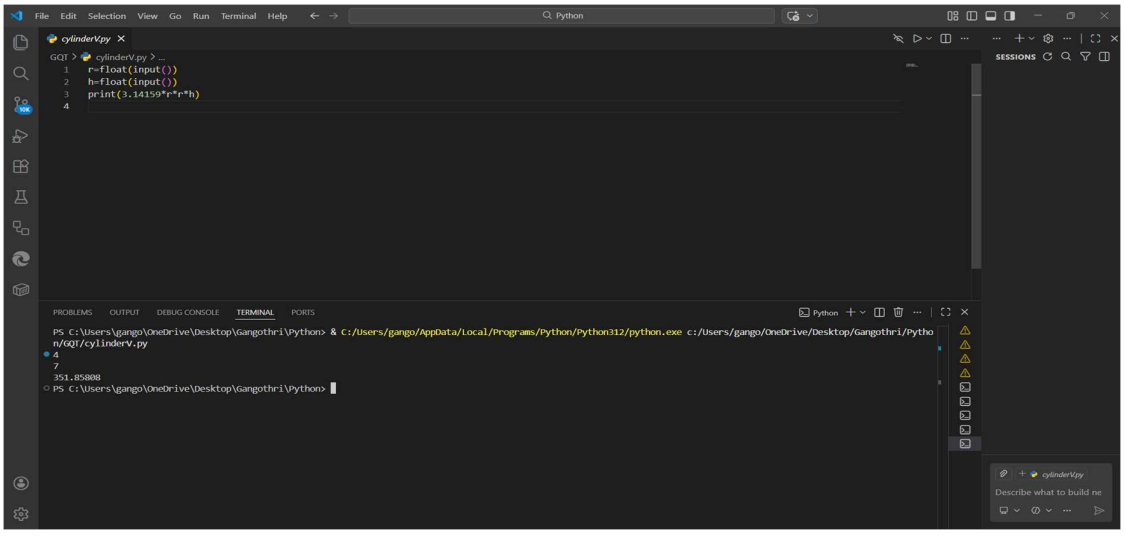
121. Write a Python Program to calculate perimeter of a circle



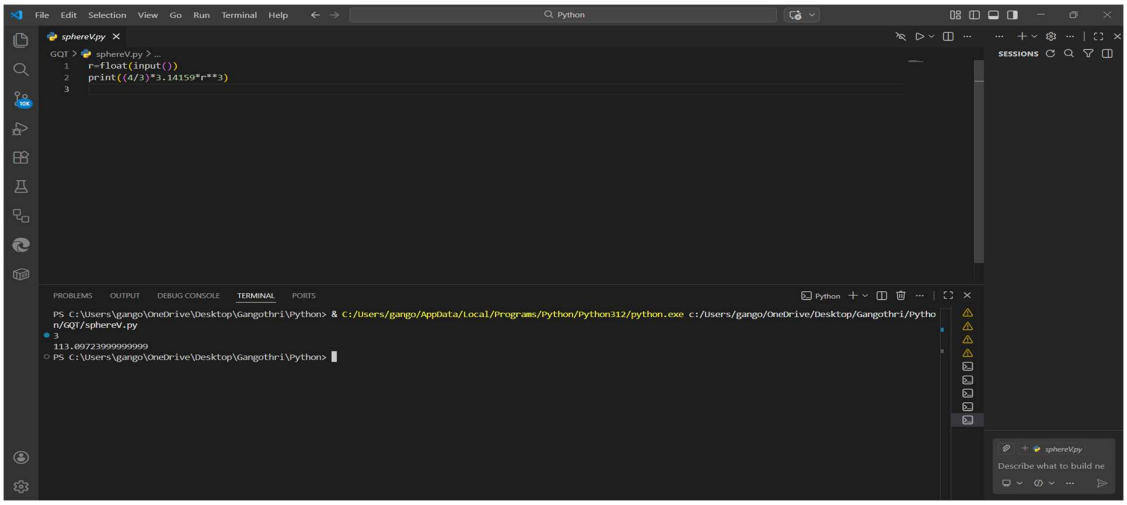
122. Write a Python Program to calculate volume of a cube



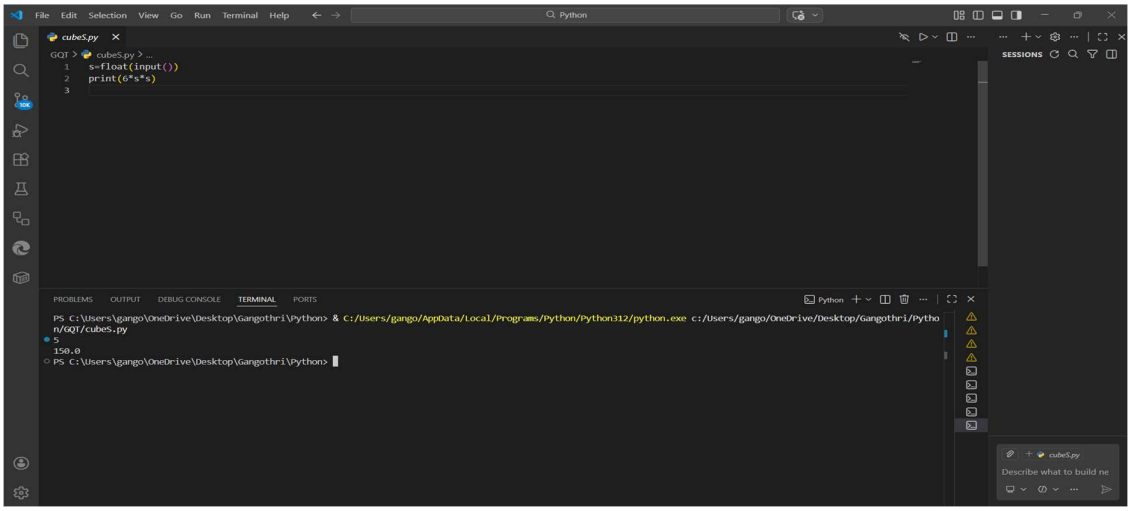
123. Write a Python Program to calculate volume of a cylinder



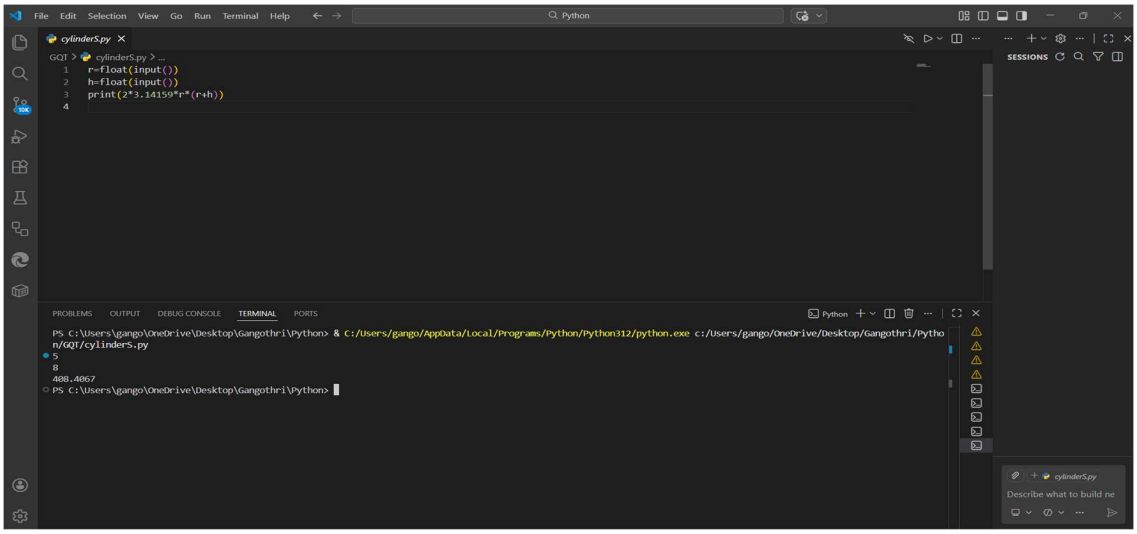
124. Write a Python Program to calculate volume of a sphere.



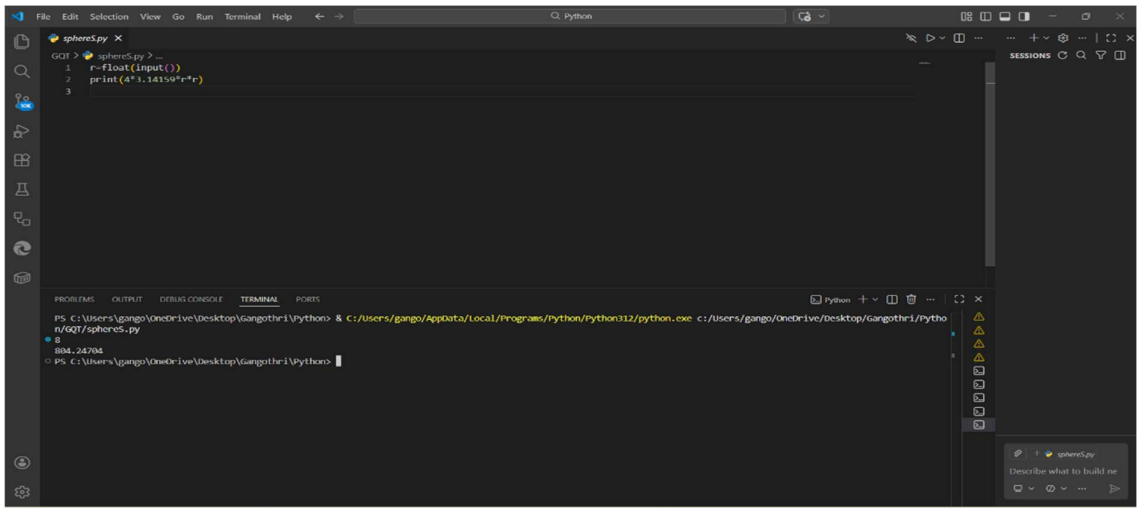
125. Write a Python Program to calculate surface area of a cube



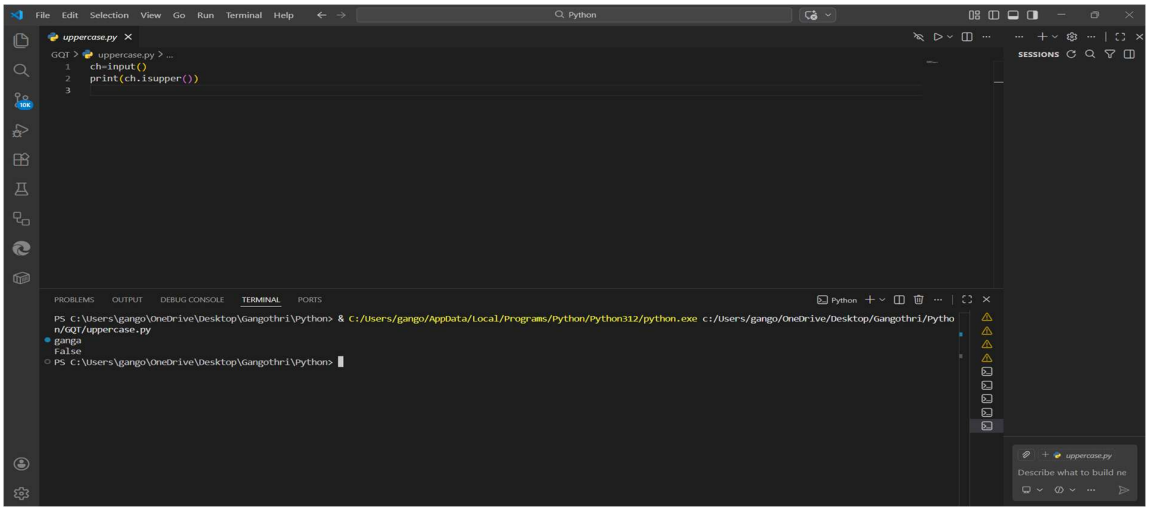
126. Write a Python Program to calculate surface area of a cylinder.



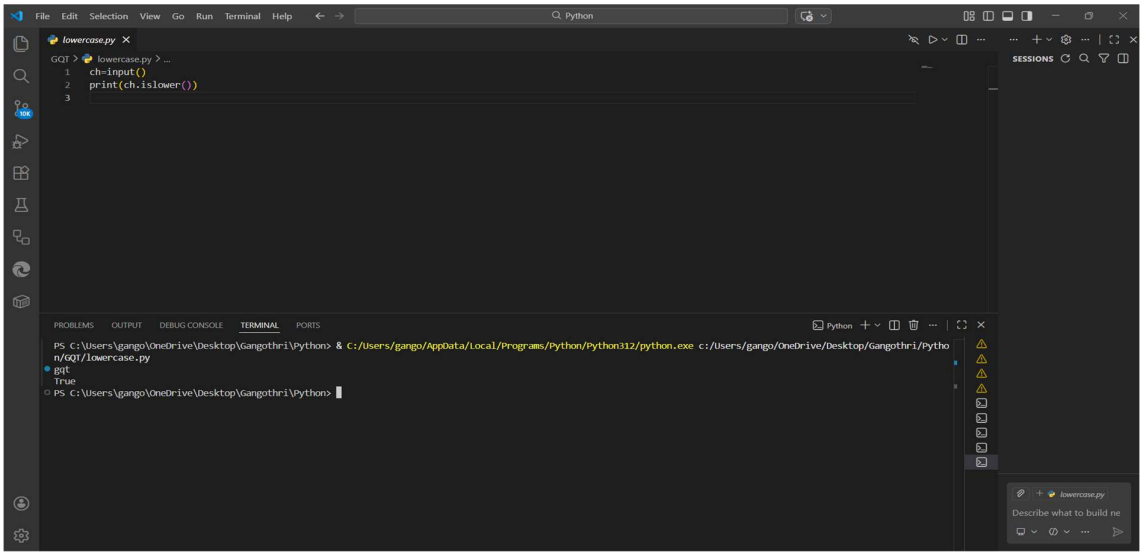
127. Write a Python Program to calculate surface area of a sphere.



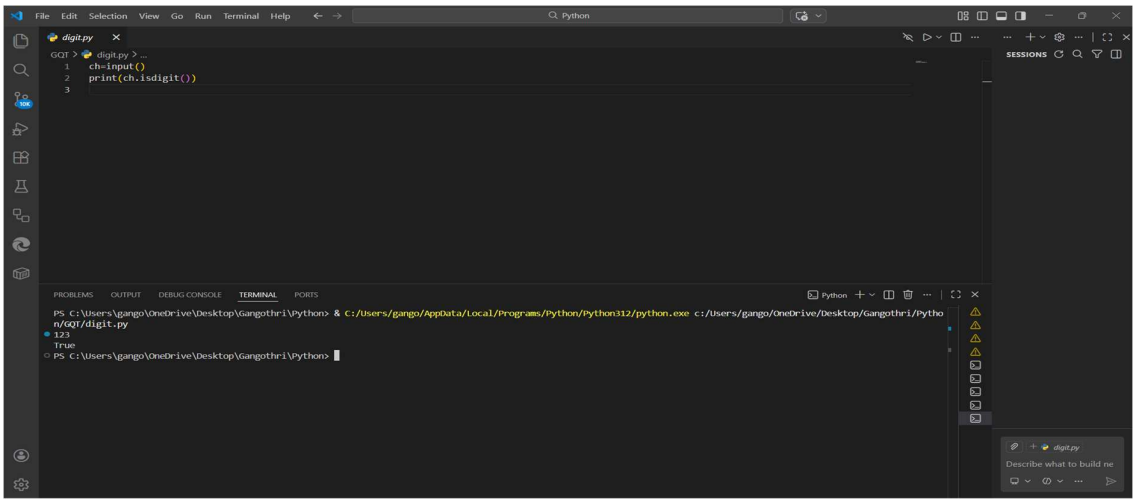
128. Write a Python Program to check if a character is uppercase.



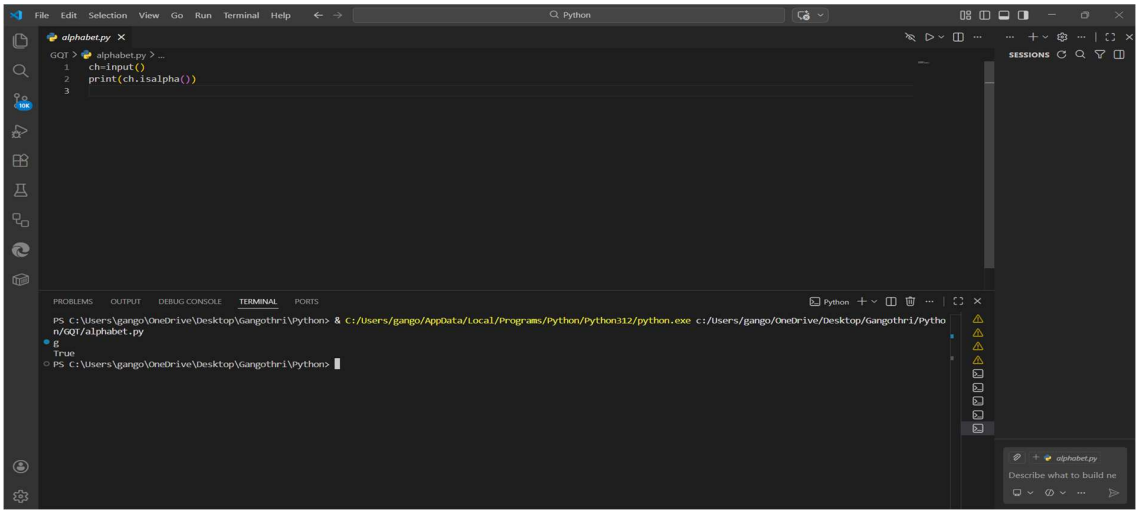
129. Write a Python Program to check if a character is lowercase



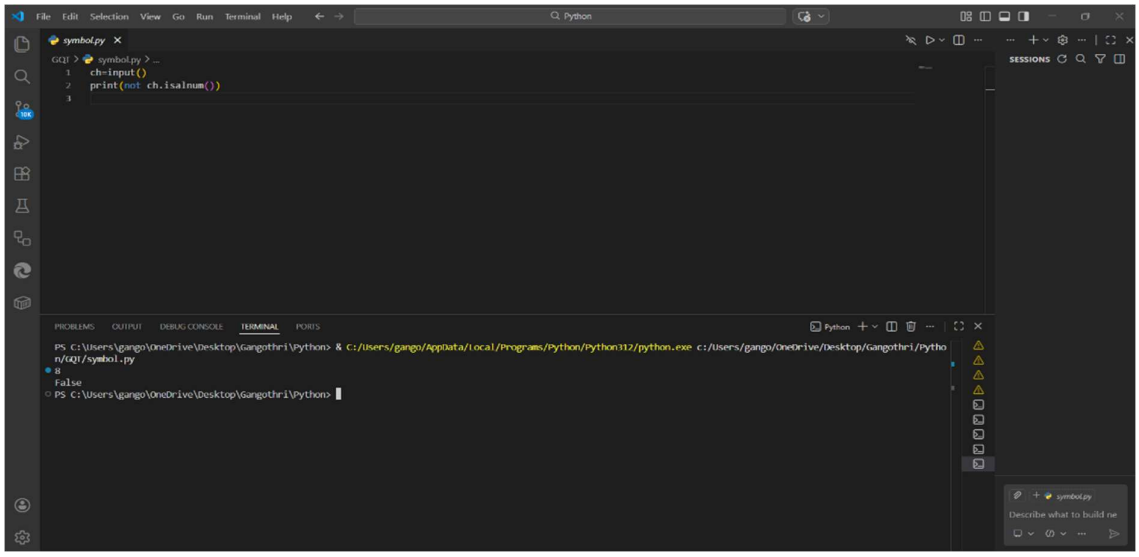
130. Write a Python Program to check if a character is a digit



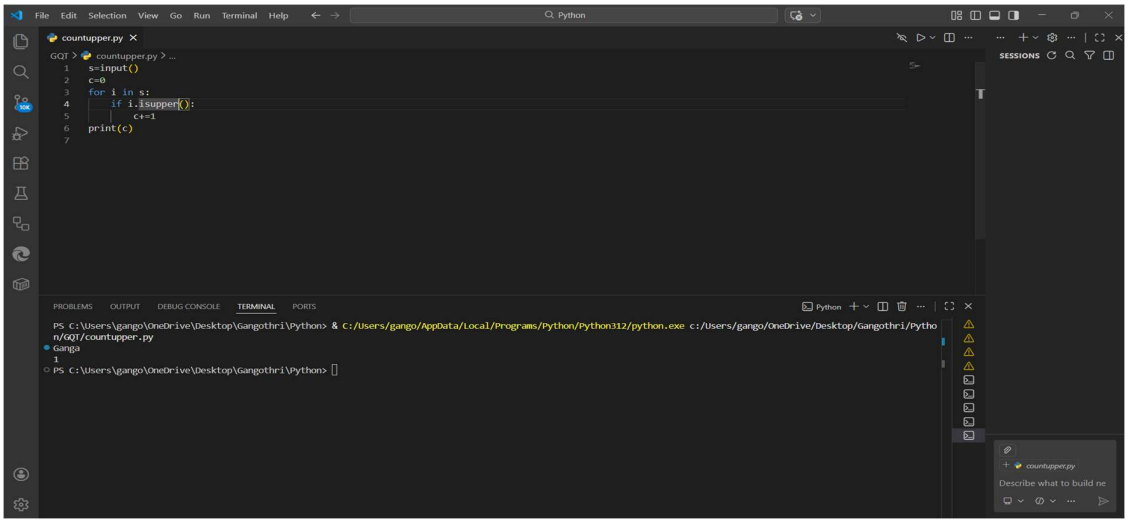
131. Write a Python Program to check if a character is an alphabet



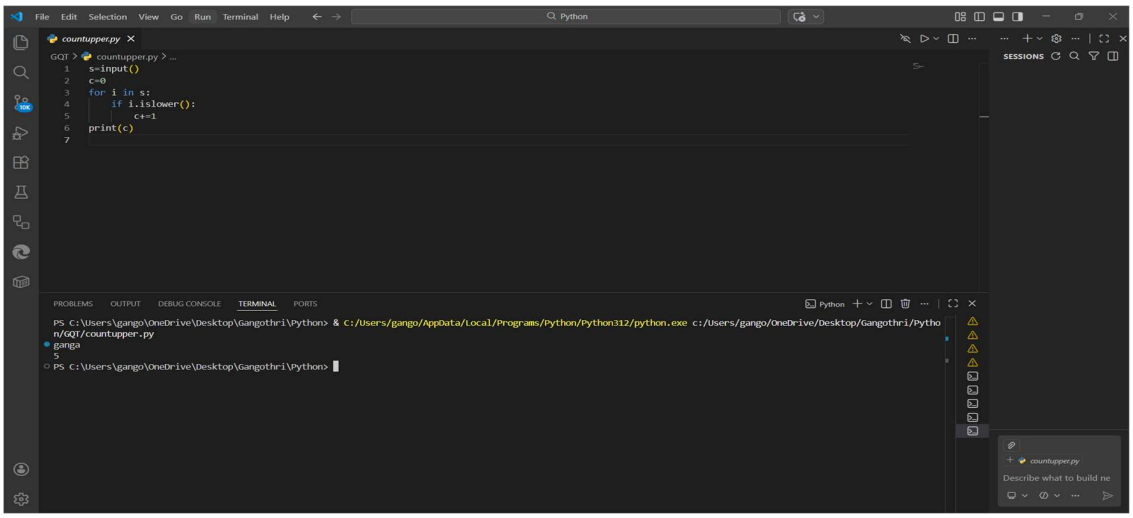
132. Write a Python Program to check if a character is a special symbol



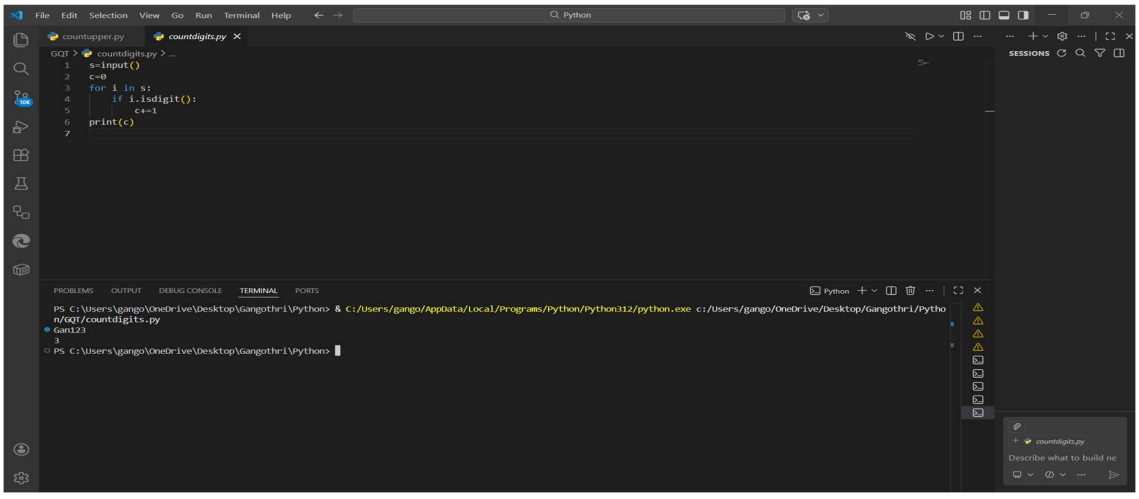
133. Write a Python Program to count uppercase letters in a string



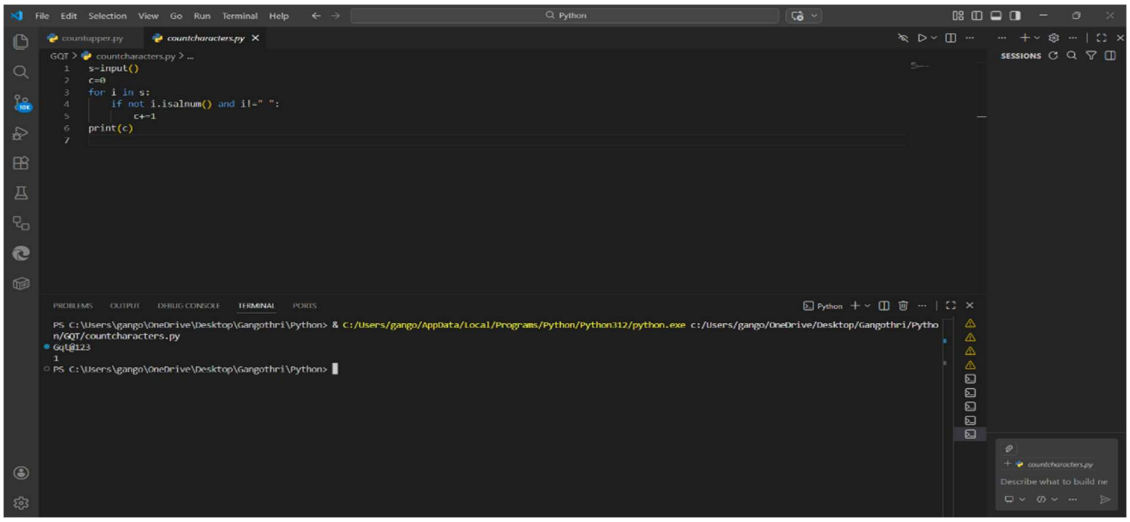
134. Write a Python Program to count lowercase letters in a string



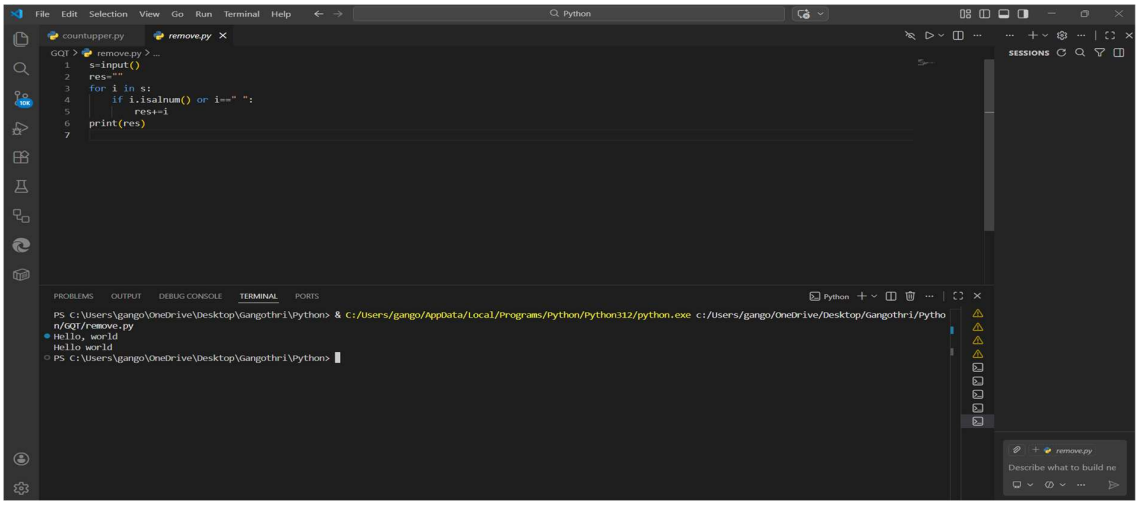
135. Write a Python Program to count digits in a string



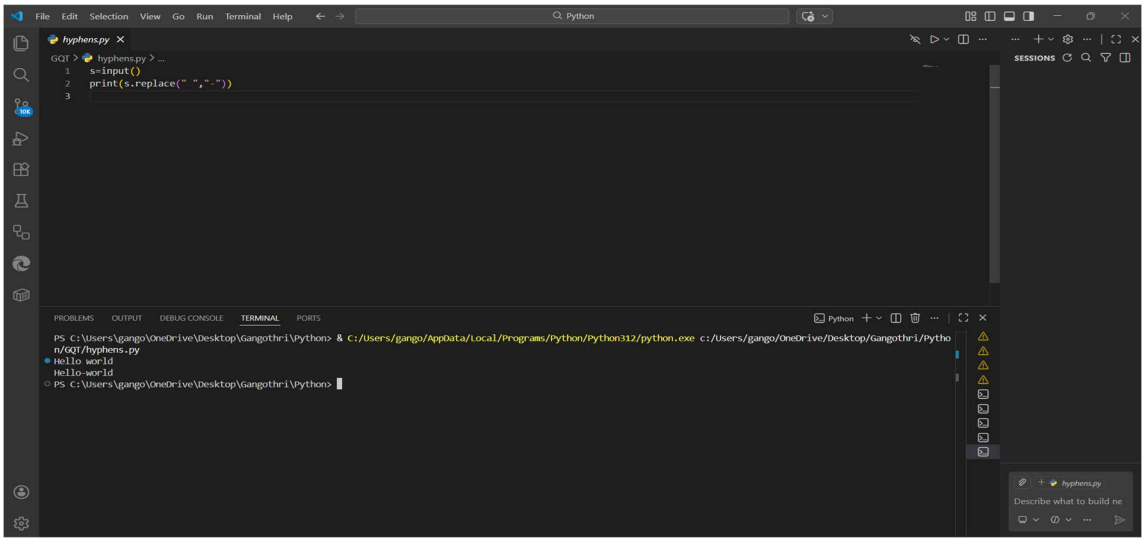
136. Write a Python Program to count special characters in a string



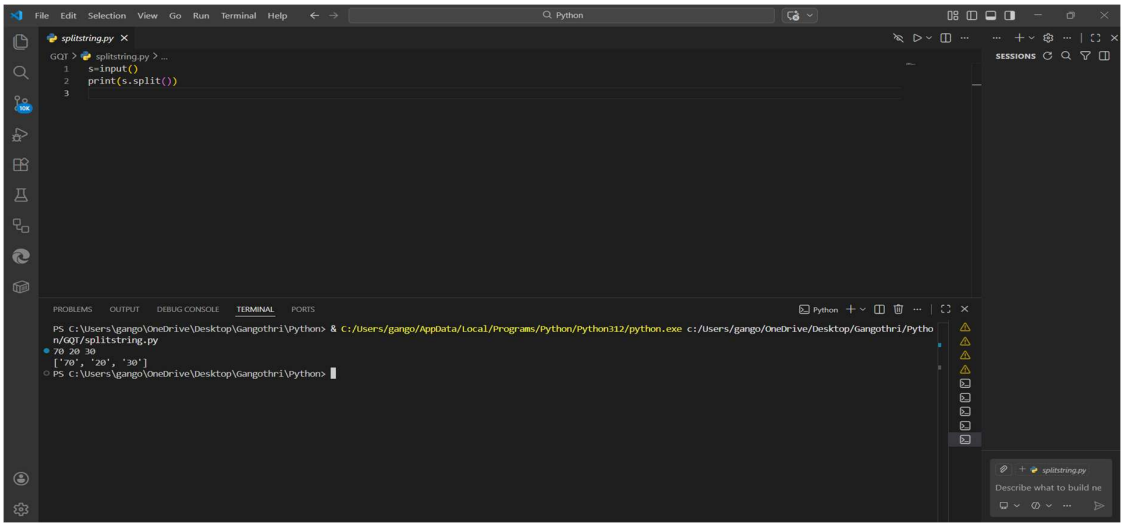
137. Write a Python Program to remove punctuation from a string



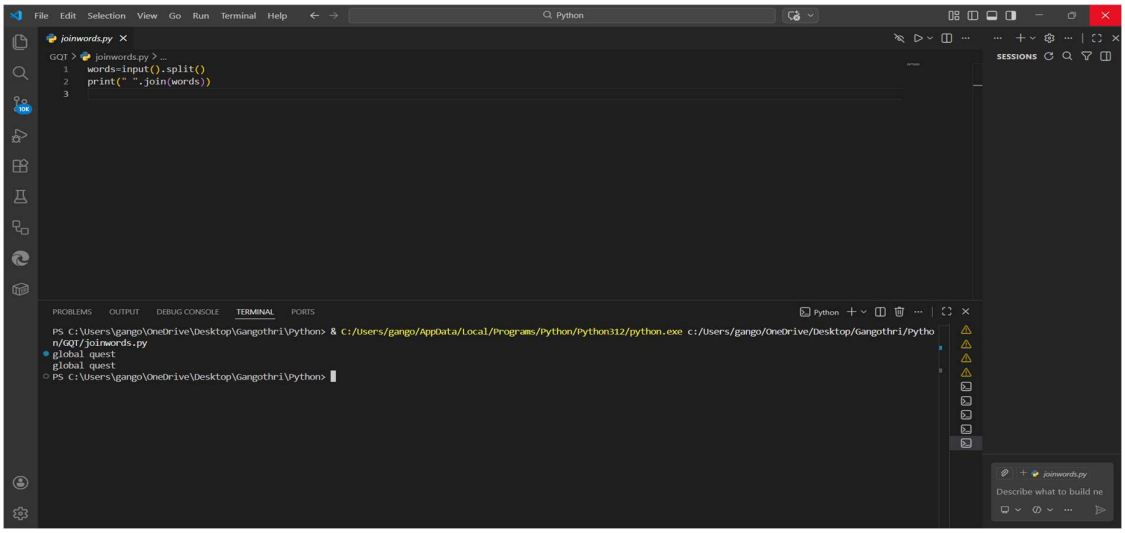
138. Write a Python Program to replace spaces with hyphens in a string



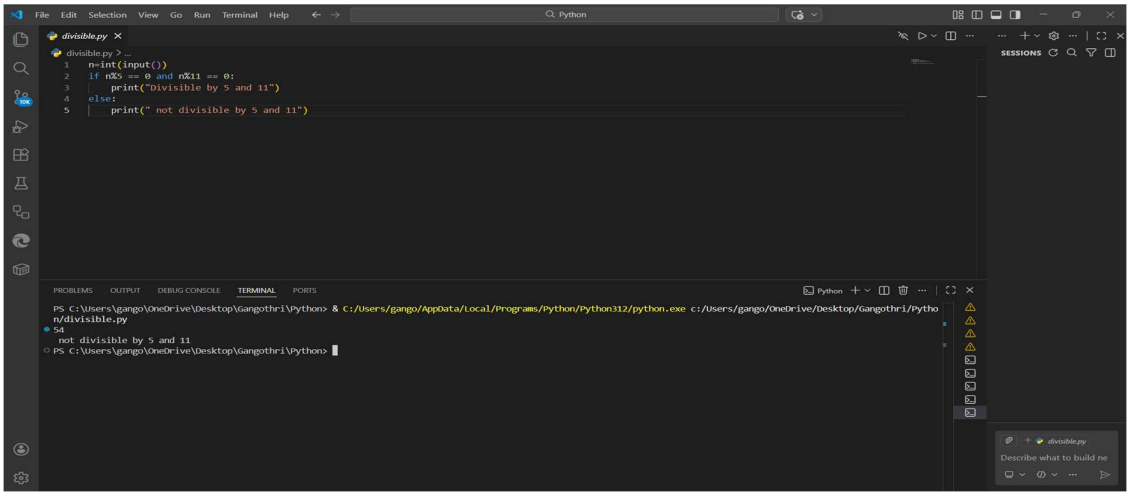
139. Write a Python Program to split a string into words.



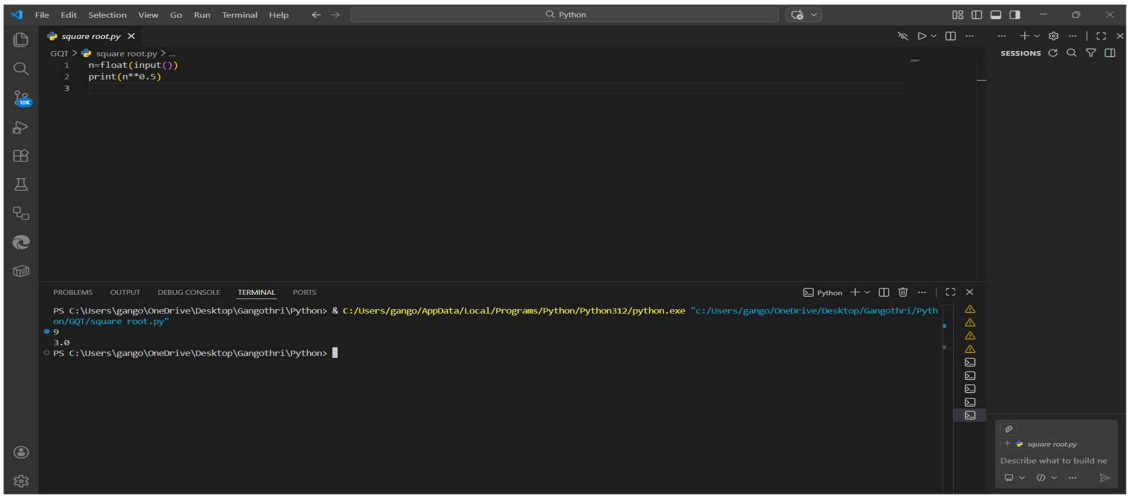
140. Write a Python Program to join words into a sentence.



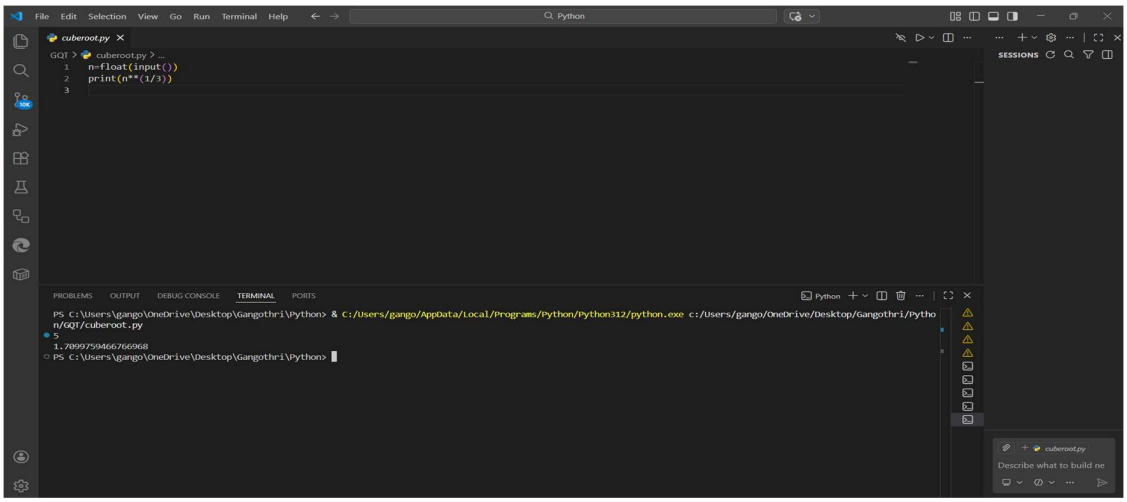
141. Write a Python Program to check if a number is divisible by another number.



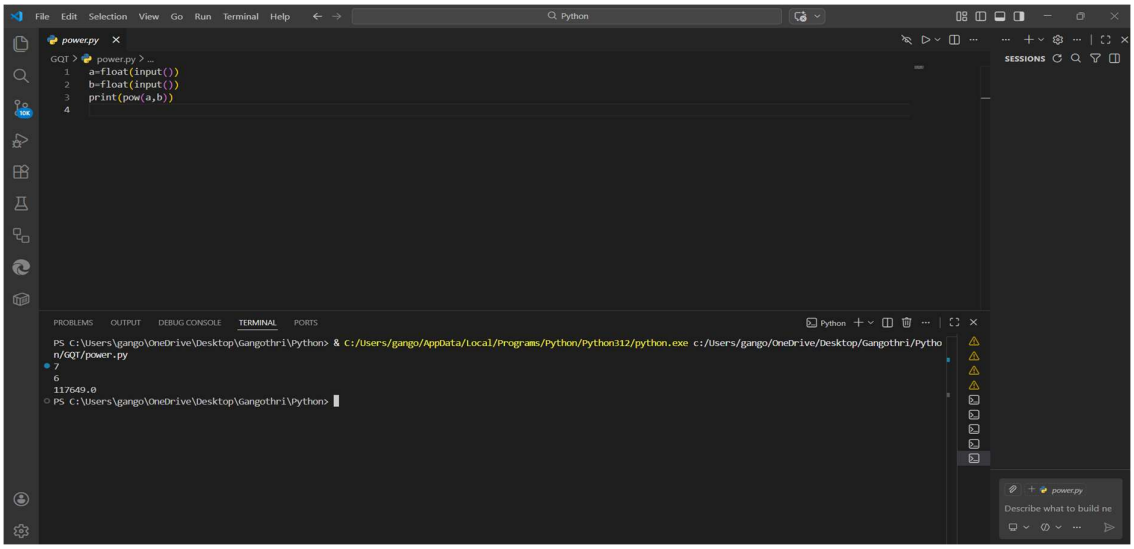
142. Write a Python Program to find the square root of a number.



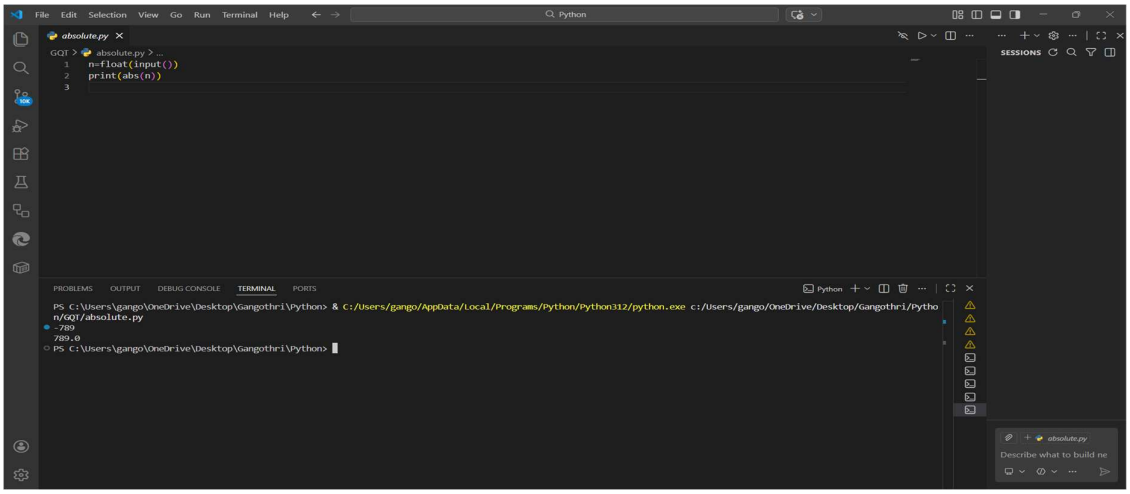
143. Write a Python Program to find cube root of a number.



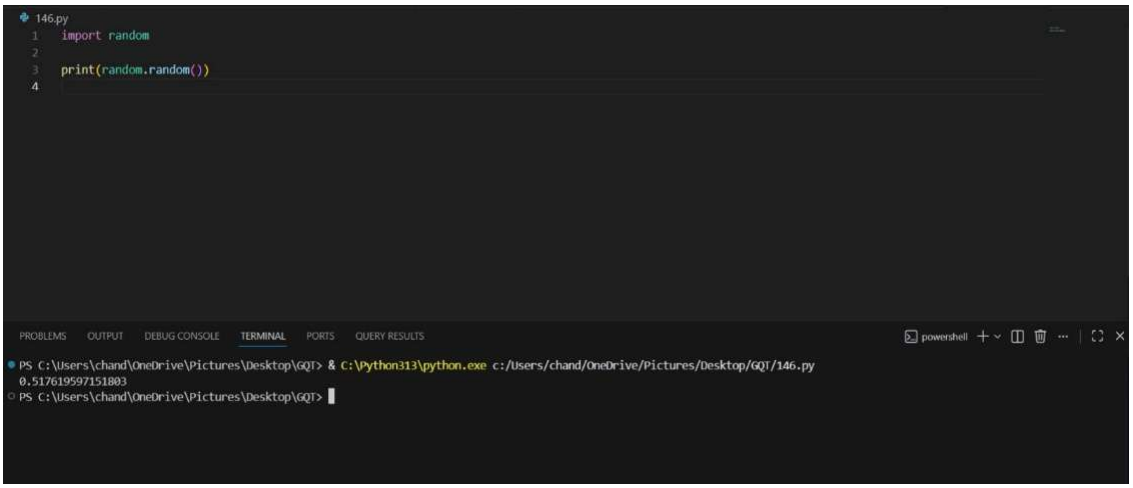
144. Write a Python Program to calculate power using 'pow() function.



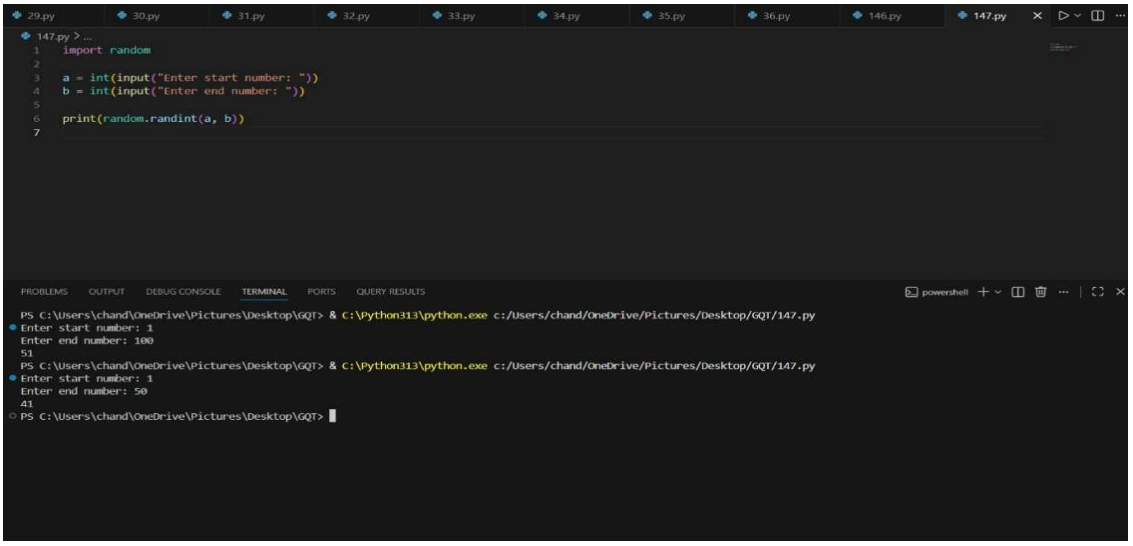
145. Write a Python Program to calculate absolute value of a number.



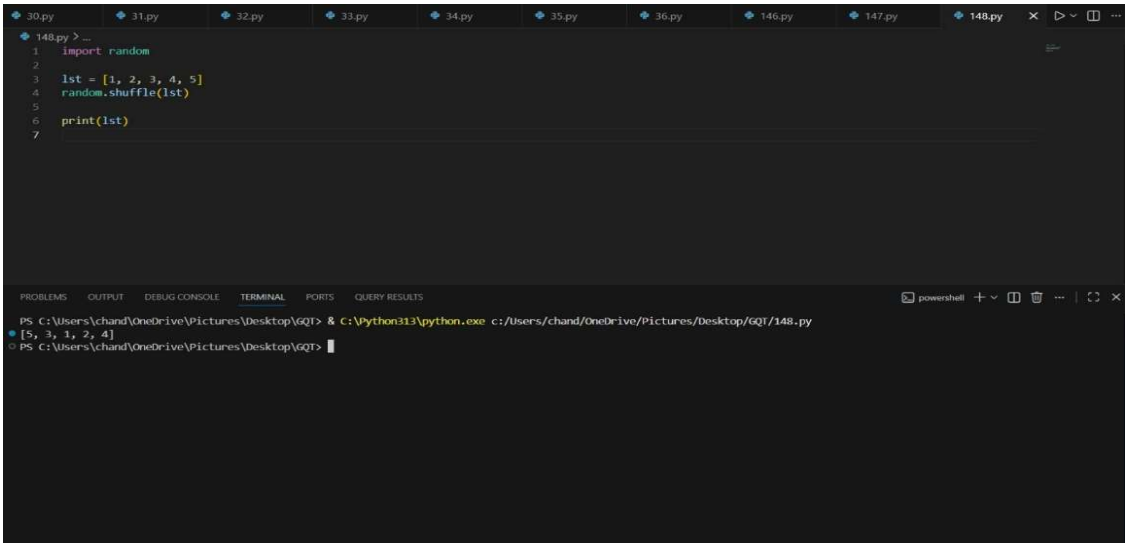
146. Write a Python Program to generate random numbers.



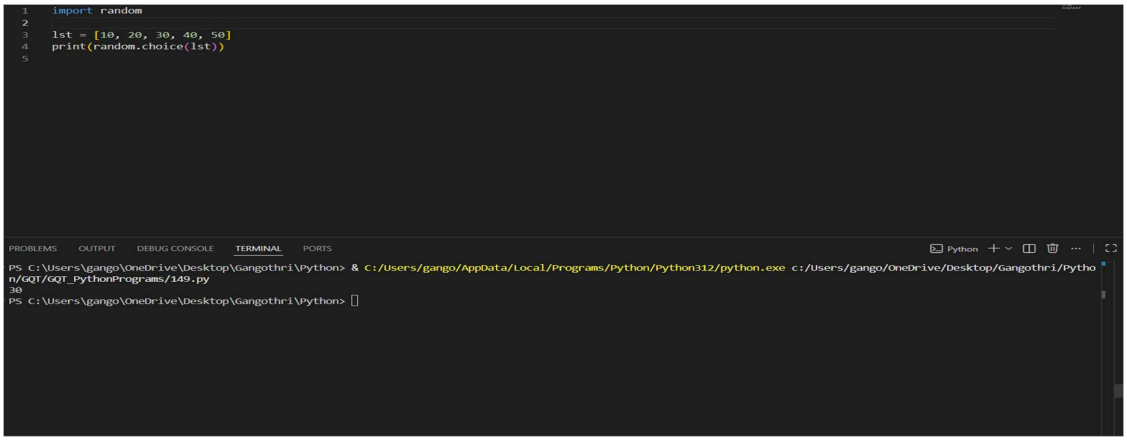
147. Write a Python Program to generate random integers between two numbers.



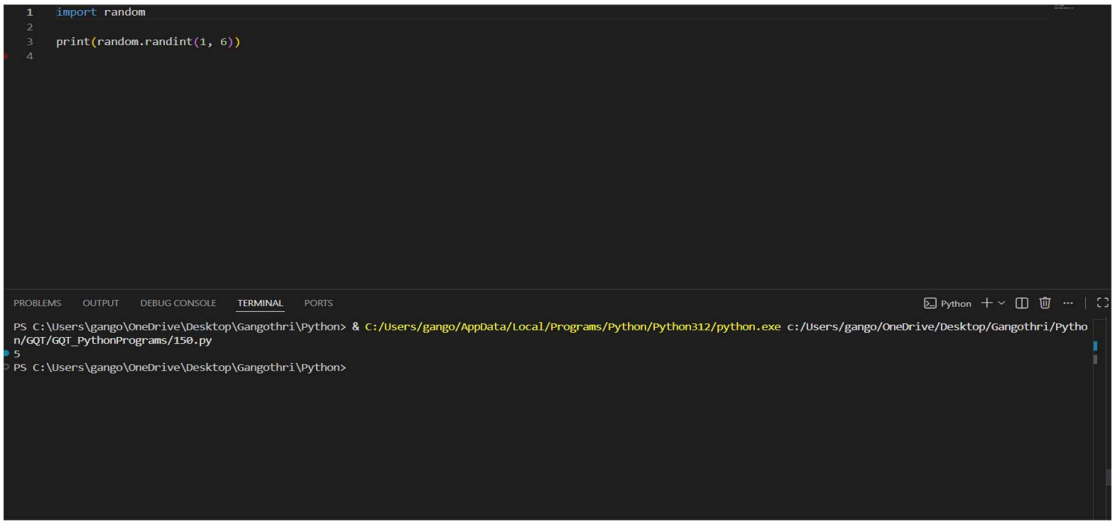
148. Write a Python Program to shuffle elements of a list.



149. Write a Python Program to pick a random element from a list.



150. Write a Python Program to simulate rolling a dice.



151. Write a Python Program to simulate tossing a coin.

```
import random

print(random.choice(["Heads", "Tails"]))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/151.py
Heads
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

152. Write a Python Program to generate a random password.

```
import random
import string

chars = string.ascii_letters + string.digits + string.punctuation
password = ''.join(random.choice(chars) for _ in range(8))
print(password)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/152.py
x/JYUC*A
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

153. Write a Python Program to generate a random OTP.

```
import random

otp = random.randint(100000, 999999)
print(otp)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/153.py
673638
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

154. Write a Python Program to generate a random prime number.

```python
import random

def is_prime(n):
    if n < 2:
        return False
    for i in range(2, int(n**0.5) + 1):
        if n % i == 0:
            return False
    return True

while True:
    num = random.randint(2, 100)
    if is_prime(num):
        print(num)
        break
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/154.py
29
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

155. Write a Python Program to generate a random even number.

```python
import random

print(random.randrange(0, 100, 2))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/155.py
46
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

156. Write a Python Program to generate a random odd number.

```python
import random

print(random.randrange(1, 100, 2))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/156.py
59
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

157. Write a Python Program to generate a random string of given length.

```python
import random
import string

length = 6
result = ''.join(random.choice(string.ascii_letters) for _ in range(length))
print(result)

```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/157.py
BaoFwg
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

158. Write a Python Program to generate random alphanumeric string.

```python
import random
import string

result = ''.join(random.choice(string.ascii_letters + string.digits) for _ in range(8))
print(result)

```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/158.py
oBubxnWS
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

159. Write a Python Program to generate random floating-point numbers.

```python
import random

print(random.uniform(1, 10))

```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/159.py
7.404514921566846
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

160. Write a Python Program to generate random numbers within a range.

```
import random

print(random.randint(50, 100))

```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/160.py
78
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

161. Write a Python Program to check if a list is empty.

```
lst = []
print(len(lst) == 0)

```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/161.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

162. Write a Python Program to check if a string is empty.

```
s = ""
print(len(s) == 0)

```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/162.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

163. Write a Python Program to check if a tuple is empty.

```
t = ()
print(len(t) == 0)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/163.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

164. Write a Python Program to check if a dictionary is empty.

```
d = {}
print(len(d) == 0)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/164.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

165. Write a Python Program to remove all elements from a list.

```
GQT > GQT_PythonPrograms > 165.py > lst
lst = [1, 2, 3]
lst.clear()
print(lst)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/165.py
[]
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

166. Write a Python Program to remove all elements from a dictionary.

```
d = {"a": 1, "b": 2}
d.clear()
print(d)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/166.py
{}
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

167. Write a Python Program to remove all elements from a set.

```
s = {1, 2, 3}
s.clear()
print(s)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/167.py
set()
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

168. Write a Python Program to copy a list.

```
lst = [1, 2, 3]
new_lst = lst.copy()
print(new_lst)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/168.py
[1, 2, 3]
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

169. Write a Python Program to copy a dictionary.

```python
d = {"a": 1, "b": 2}
new_d = d.copy()
print(new_d)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/169.py
{'a': 1, 'b': 2}
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

170. Write a Python Program to copy a set.

```python
s = {1, 2, 3}
new_s = s.copy()
print(new_s)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/170.py
{1, 2, 3}
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

171. Write a Python Program to reverse a list.

```python
lst = [1, 2, 3, 4]
lst.reverse()
print(lst)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/171.py
[4, 3, 2, 1]
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

172. Write a Python Program to reverse a tuple.

```
t = (1, 2, 3, 4)
print(t[::-1])
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/172.py
(4, 3, 2, 1)
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

173. Write a Python Program to reverse a dictionary.

```
d = {"a": 1, "b": 2, "c": 3}
reversed_d = {v: k for k, v in d.items()}
print(reversed_d)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/173.py
{1: 'a', 2: 'b', 3: 'c'}
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

174. Write a Python Program to reverse a set.

```
s = {1, 2, 3, 4}
reversed_s = set(list(s)[::-1])
print(reversed_s)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/174.py
{1, 2, 3, 4}
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

175. Write a Python Program to reverse words in a sentence.

```
sentence = "Python is easy"
print(" ".join(sentence.split()[::-1]))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/175.py
easy is Python
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

176. Write a Python Program to reverse characters in each word of a sentence.

```
sentence = "Python is easy"
result = " ".join(word[::-1] for word in sentence.split())
print(result)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/176.py
nohtyP si ysae
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

177. Write a Python Program to reverse order of lines in a file.

input.txt

```
Line one
Line two
Line three
```

177.py > ...

```
with open("input.txt", "r") as file:
    lines = file.readlines()

with open("input.txt", "w") as file:
    for line in reversed(lines):
        file.write(line)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  QUERY RESULTS                                    powershell

PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT> & C:\Python313\python.exe c:/Users/chand/OneDrive/Pictures/Desktop/GQT/177.py
PS C:\Users\chand\OneDrive\Pictures\Desktop\GQT>
```

input.txt

```
Line three
Line two
Line one
```

178. Write a Python Program to reverse digits of a number.

```
num = 12345
print(int(str(num)[::-1]))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/178.py
54321
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

179. Write a Python Program to reverse elements of a nested list.

```
nested = [[1, 2], [3, 4], [5, 6]]
reversed_nested = [sub[::-1] for sub in nested][::-1]
print(reversed_nested)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/179.py
[[6, 5], [4, 3], [2, 1]]
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

180. Write a Python Program to reverse elements of a nested dictionary.

```
nested = {"a": {"x": 1, "y": 2}, "b": {"z": 3}}
reversed_nested = {k: {v: k2 for k2, v in val.items()} for k, val in nested.items()}
print(reversed_nested)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/180.py
{'a': {1: 'x', 2: 'y'}, 'b': {3: 'z'}}
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

181. Write a Python Program to check if a number is prime using function.

```python
def is_prime(n):
    if n < 2:
        return False
    for i in range(2, int(n**0.5) + 1):
        if n % i == 0:
            return False
    return True

print(is_prime(7))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/181.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

182. Write a Python Program to check if a string is palindrome using function.

```python
def is_palindrome(s):
    return s == s[::-1]

print(is_palindrome("madam"))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/182.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

183. Write a Python Program to check if a number is Armstrong using function.

```python
def is_armstrong(num):
    order = len(str(num))
    total = sum(int(digit) ** order for digit in str(num))
    return total == num

print(is_armstrong(153))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                                    Python

PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Pytho
n/GQT/GQT_PythonPrograms/183.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

184. Write a Python Program to check if a number is perfect using function.

```python
def is_perfect(num):
    total = sum(i for i in range(1, num) if num % i == 0)
    return total == num

print(is_perfect(28))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT/GQT_PythonPrograms/184.py
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python>
```

185. Write a Python Program to check if a number is palindrome using function.

```python
def is_palindrome(num):
    return str(num) == str(num)[::-1]

n = int(input("Enter number: "))
print("Palindrome" if is_palindrome(n) else "Not Palindrome")3
```

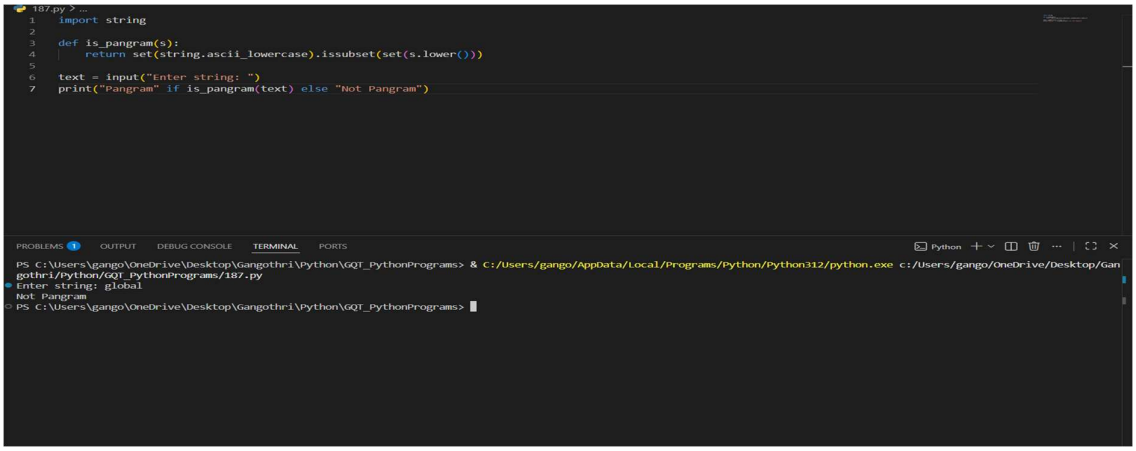
```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/185.py
Enter number: 32
Not Palindrome
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

186. Write a Python Program to check if a string is anagram using function.

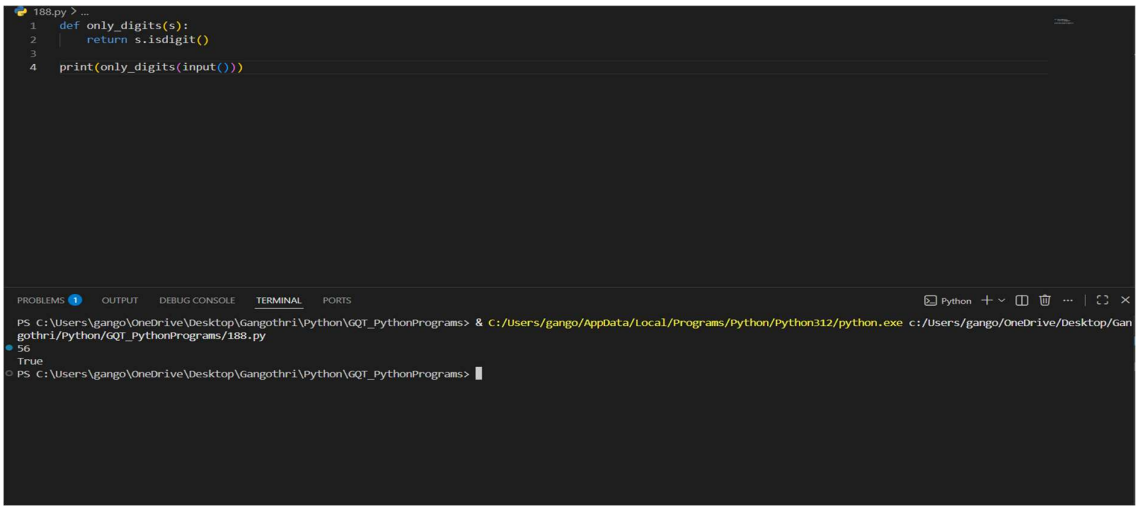
```python
def is_anagram(s1, s2):
    return sorted(s1) == sorted(s2)

a = input("Enter first string: ")
b = input("Enter second string: ")
print("Anagram" if is_anagram(a, b) else "Not Anagram")
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/186.py
Enter first string: 34 45
Enter second string: 36 78
Not Anagram
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

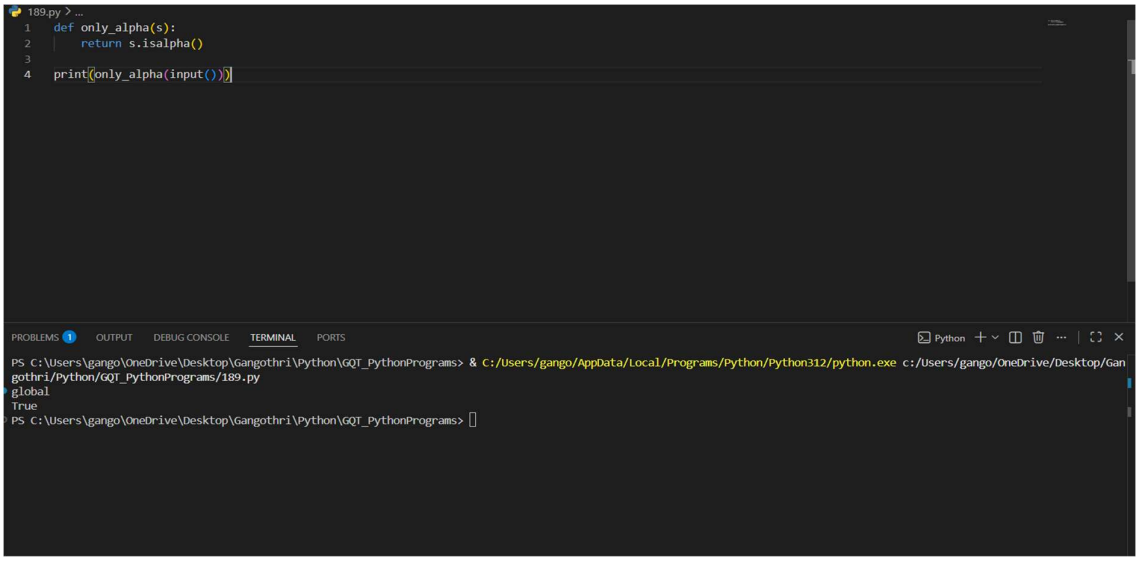
187. Write a Python Program to check if a string is pangram using function.



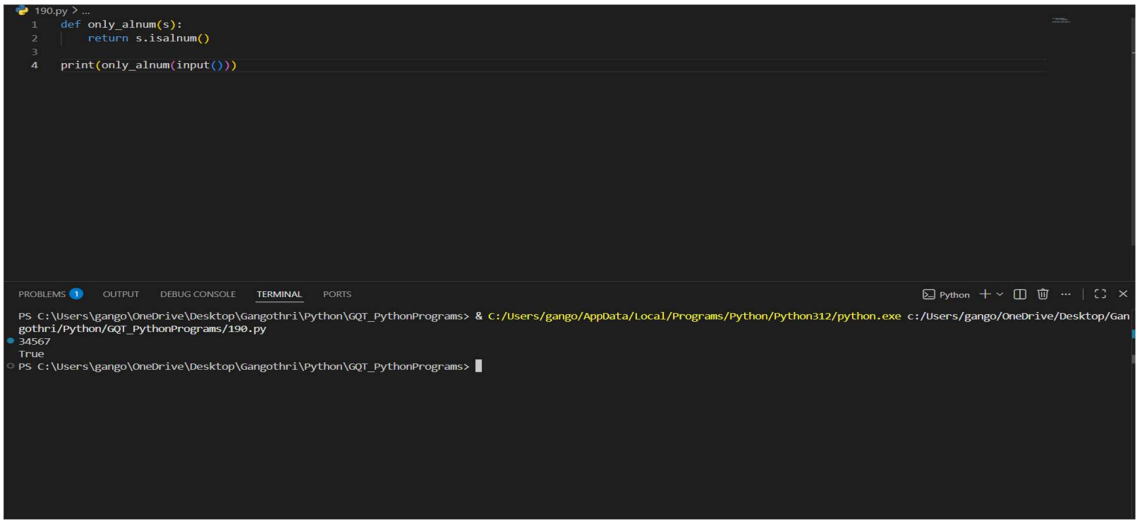
188. Write a Python Program to check if a string contains only digits.



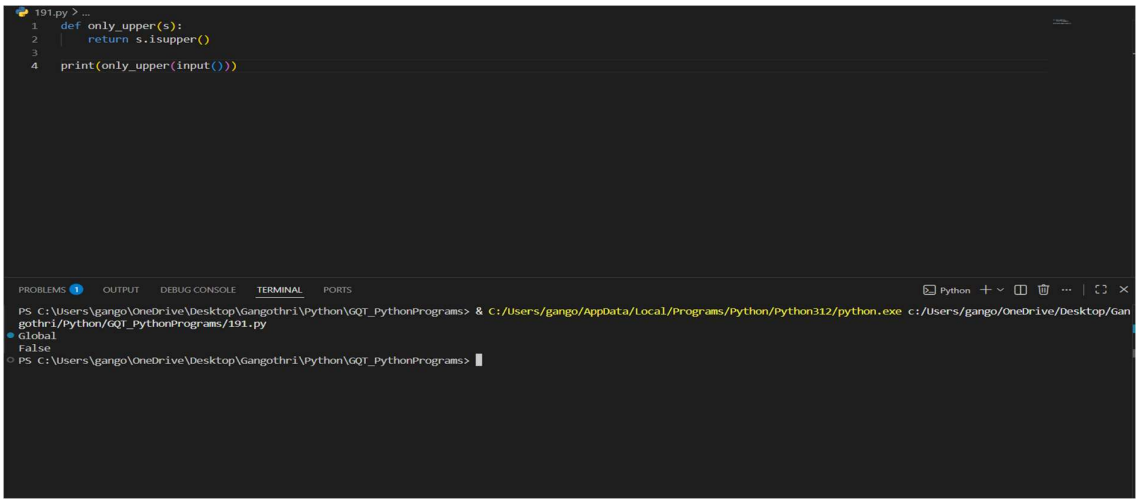
189. Write a Python Program to check if a string contains only alphabets.



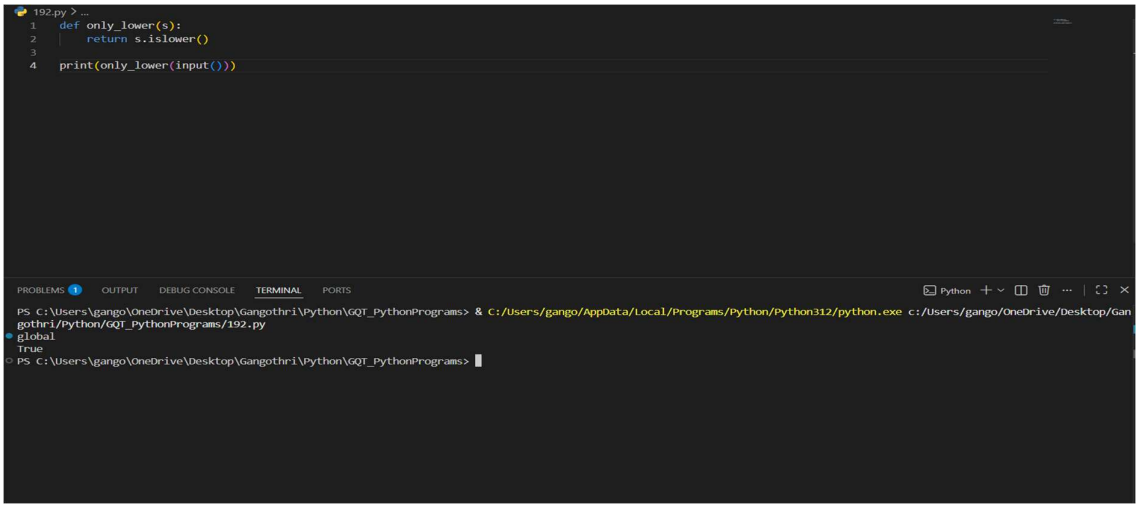
190. Write a Python Program to check if a string contains only alphanumeric characters.



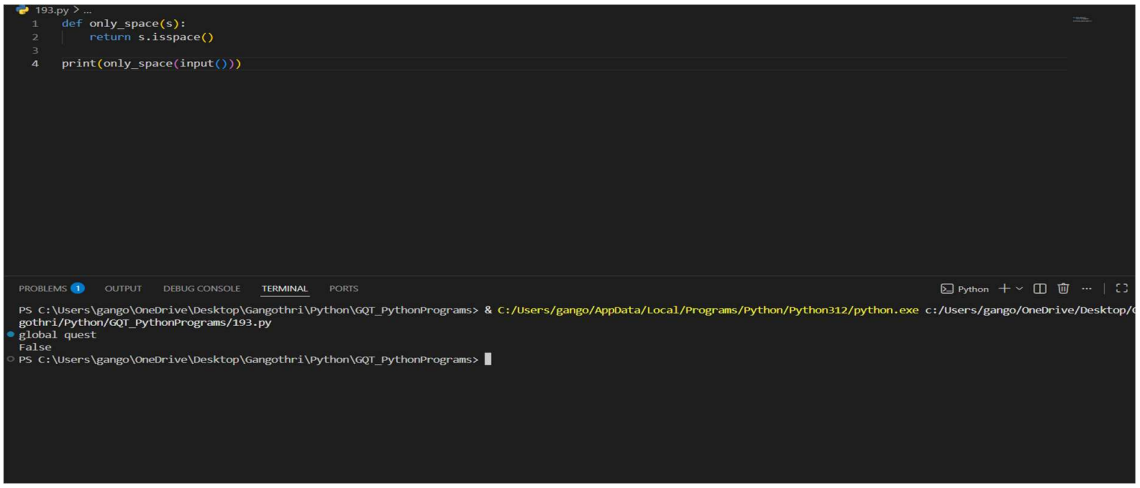
191. Write a Python Program to check if a string contains only uppercase letters.



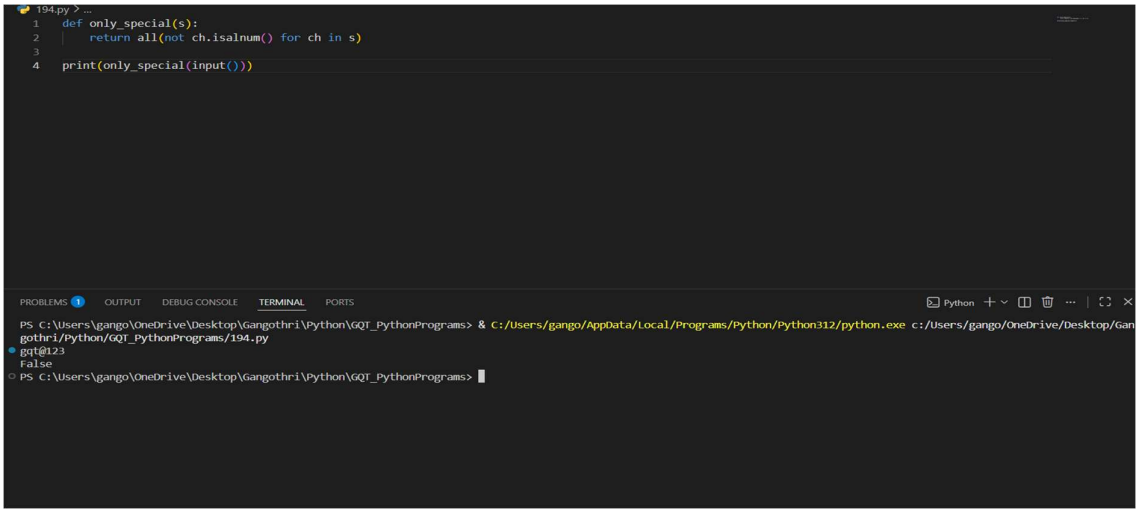
192. Write a Python Program to check if a string contains only lowercase letters.



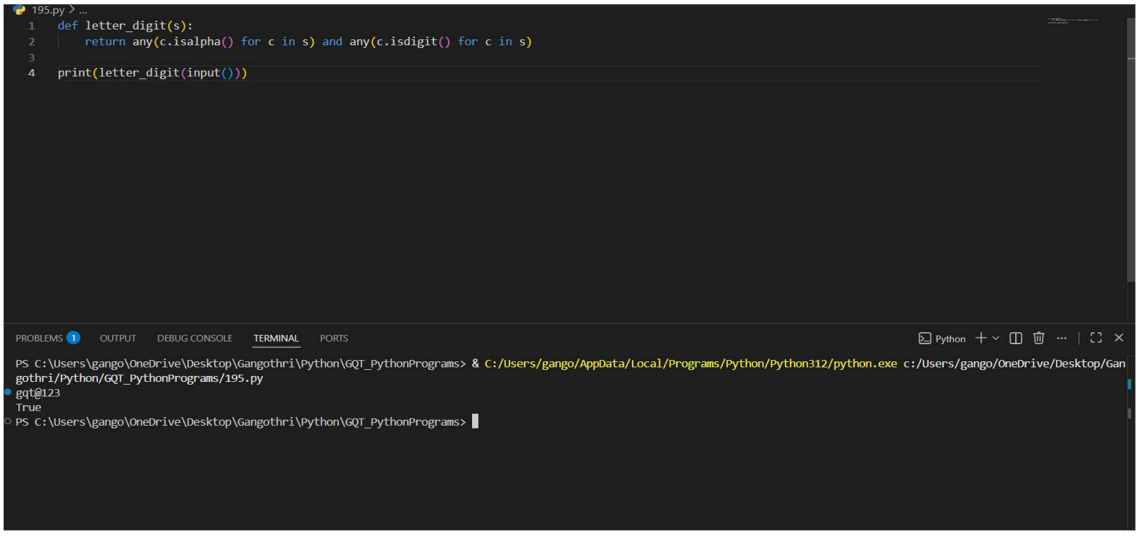
193. Write a Python Program to check if a string contains only whitespace.



194. Write a Python Program to check if a string contains only special characters.



195. Write a Python Program to check if a string contains both letters and digits.



196. Write a Python Program to check if a string contains both uppercase and lowercase letters.

```python
def upper_lower(s):
    return any(c.isupper() for c in s) and any(c.islower() for c in s)

print(upper_lower(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/196.py
global
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

197. Write a Python Program to check if a string contains both vowels and consonants

```python
def vowel_consonant(s):
    vowels = "aeiouAEIOU"
    v = any(c in vowels for c in s if c.isalpha())
    c = any(c.isalpha() and c not in vowels for c in s)
    return v and c

print(vowel_consonant(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/197.py
ganga
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

198. Write a Python Program to check if a string contains repeated characters

```python
def repeated_chars(s):
    return len(set(s)) != len(s)

print(repeated_chars(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/198.py
global
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

199. Write a Python Program to check if a string contains unique characters

```python
def unique_chars(s):
    return len(set(s)) == len(s)

print(unique_chars(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/199.py
global
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

200. Write a Python Program to check if a string contains all vowels

```python
def all_vowels(s):
    return set("aeiou").issubset(set(s.lower()))

print(all_vowels(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/200.py
global
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

201. Write a Python Program to check if a number is prime using recursion.

```python
def is_prime(n, i=2):
    if n <= 2:
        return n == 2
    if n % i == 0:
        return False
    if i * i > n:
        return True
    return is_prime(n, i+1)

print(is_prime(int(input())))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/201.py
5
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

202. Write a Python Program to check if a string is palindrome using recursion

```python
def palindrome(s):
    if len(s) <= 1:
        return True
    if s[0] != s[-1]:
        return False
    return palindrome(s[1:-1])

print(palindrome(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/202.py
454
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

203. Write a Python Program to check if a number is Armstrong using recursion

```python
def armstrong(n, power, temp=None):
    if temp is None:
        temp = n
    if temp == 0:
        return 0
    return (temp % 10) ** power + armstrong(n, power, temp // 10)

num = int(input())
p = len(str(num))
print(armstrong(num, p) == num)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/203.py
567
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

204. Write a Python Program to check if a number is perfect using recursion.

```python
def perfect(n, i=1, s=0):
    if i == n:
        return s
    if n % i == 0:
        s += i
    return perfect(n, i+1, s)

num = int(input())
print(perfect(num) == num)
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/204.py
25
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

205. Write a Python Program to check if a number is palindrome using recursion

```python
def rev(n, r=0):
    if n == 0:
        return r
    return rev(n//10, r*10 + n%10)

num = int(input())
print(num == rev(num))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/205.py
2345
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

206. Write a Python Program to check if a string is anagram using recursion

```python
def anagram(s1, s2):
    if len(s1) == 0:
        return True
    if s1[0] not in s2:
        return False
    return anagram(s1[1:], s2.replace(s1[0], "", 1))

print(anagram(input(), input()))
```

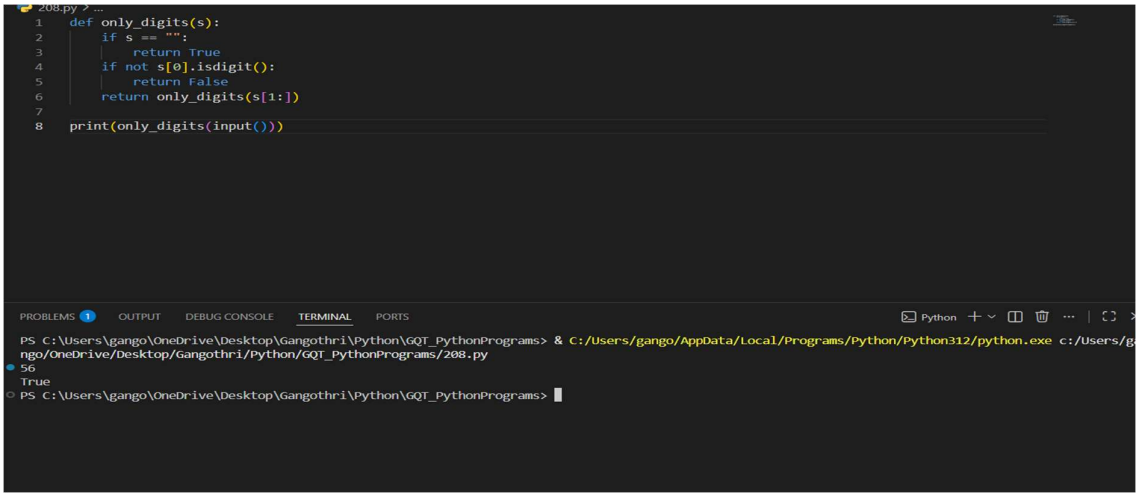
```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/206.py
456
```

207. Write a Python Program to check if a string is pangram using recursion.

```python
import string

def pangram(s, letters=set(string.ascii_lowercase)):
    if not letters:
        return True
    if not s:
        return False
    return pangram(s[1:], letters - {s[0].lower()})

print(pangram(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/207.py
global
False
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

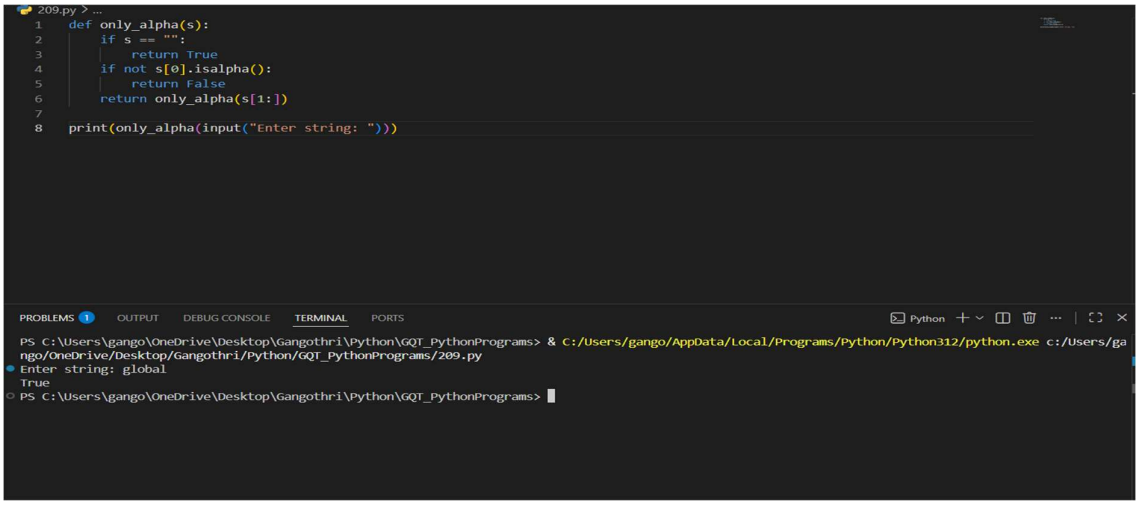
208. Write a Python Program to check if a string contains only digits using recursion.



```
def only_digits(s):
    if s == "":
        return True
    if not s[0].isdigit():
        return False
    return only_digits(s[1:])

print(only_digits(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/208.py
56
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

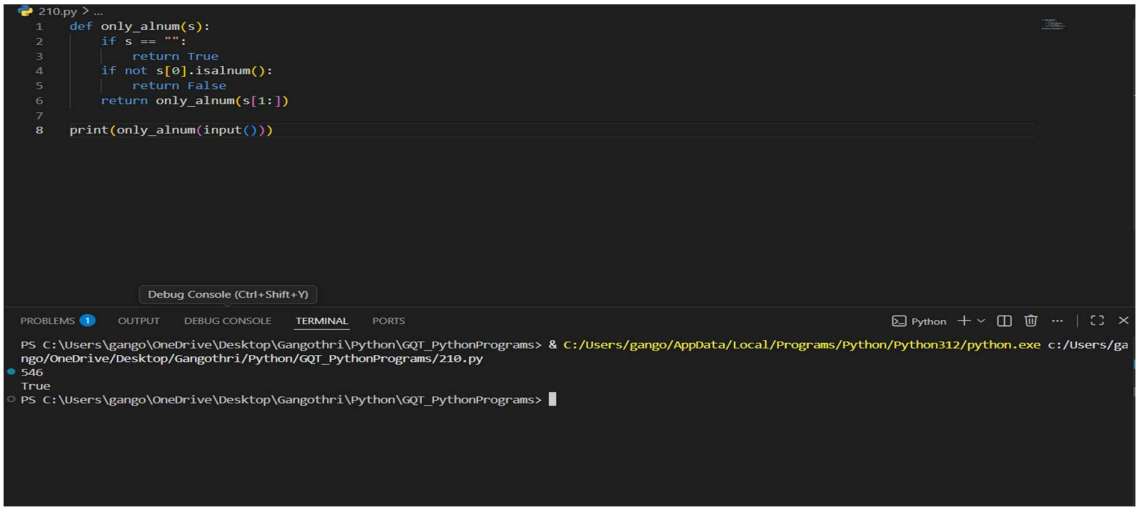
209. Write a Python Program to check if a string contains only alphabets using recursion.



```
def only_alpha(s):
    if s == "":
        return True
    if not s[0].isalpha():
        return False
    return only_alpha(s[1:])

print(only_alpha(input("Enter string: ")))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/209.py
Enter string: global
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

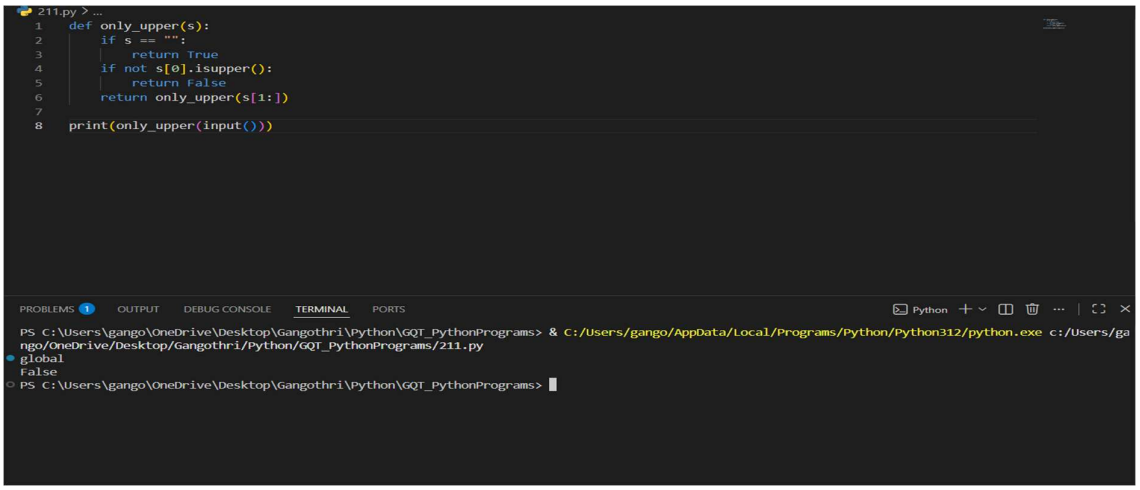
210. Write a Python Program to check if a string contains only alphanumeric characters using recursion.



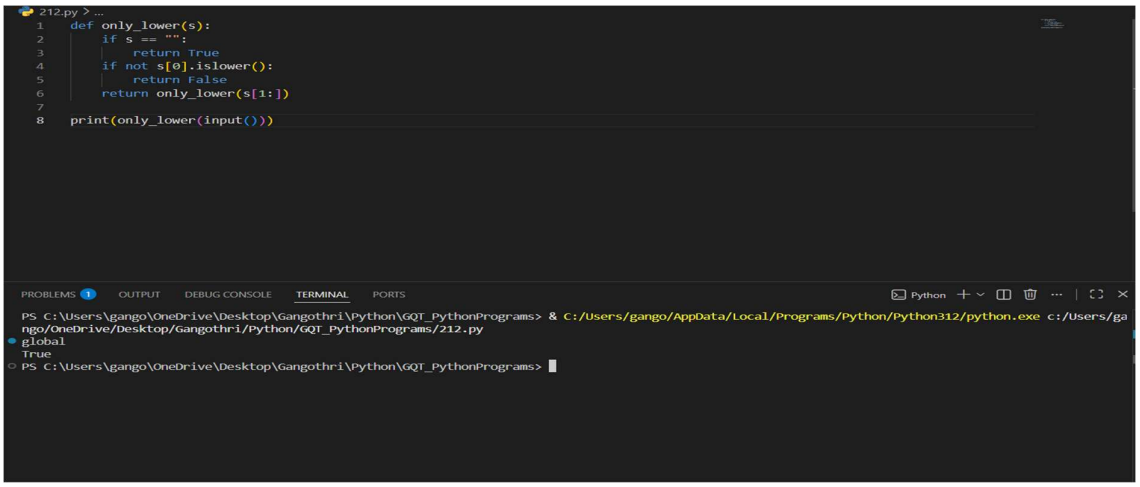
```
def only_alnum(s):
    if s == "":
        return True
    if not s[0].isalnum():
        return False
    return only_alnum(s[1:])

print(only_alnum(input()))
```

```
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms> & C:/Users/gango/AppData/Local/Programs/Python/Python312/python.exe c:/Users/gango/OneDrive/Desktop/Gangothri/Python/GQT_PythonPrograms/210.py
546
True
PS C:\Users\gango\OneDrive\Desktop\Gangothri\Python\GQT_PythonPrograms>
```

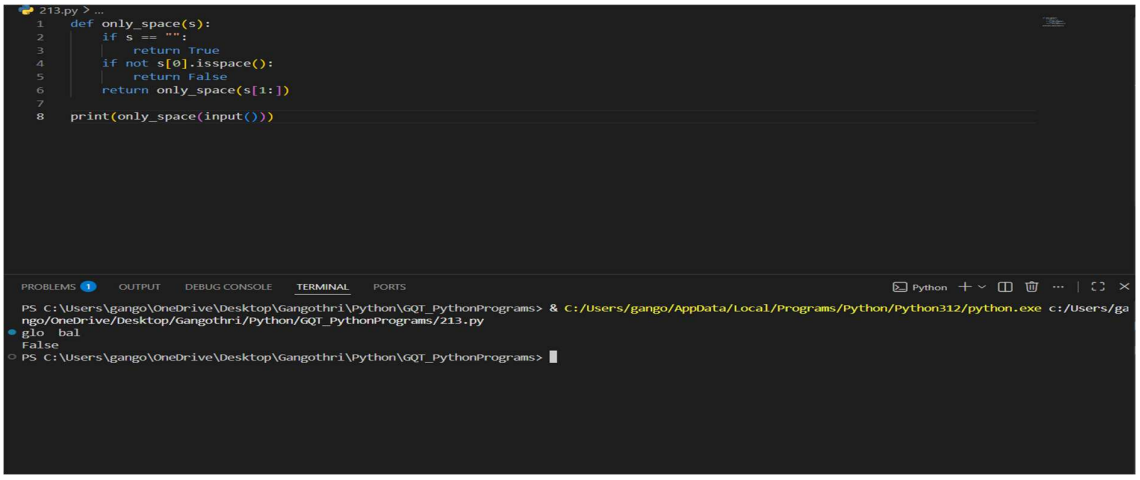
211. Write a Python Program to check if a string contains only uppercase letters using recursion.



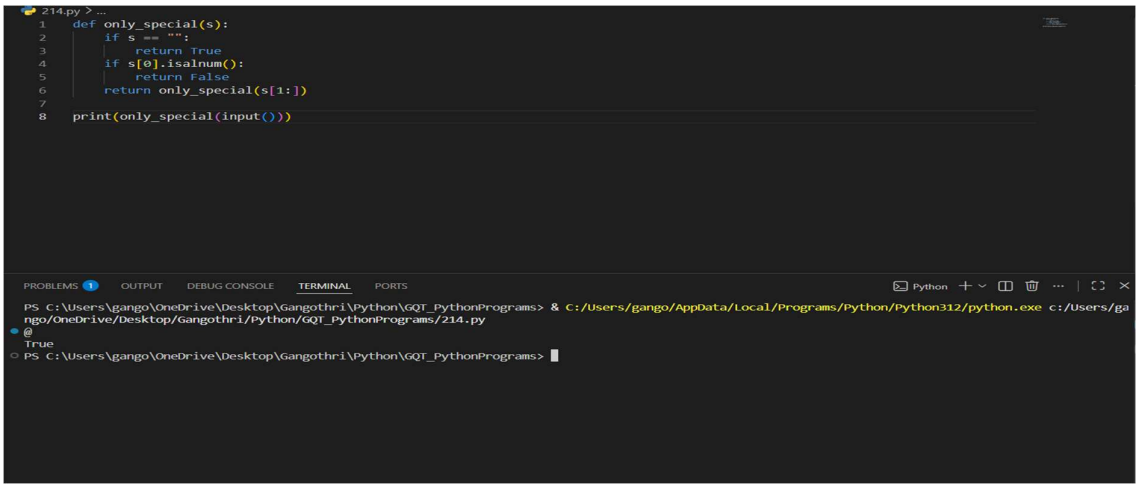
212. Write a Python Program to check if a string contains only lowercase letters using recursion.



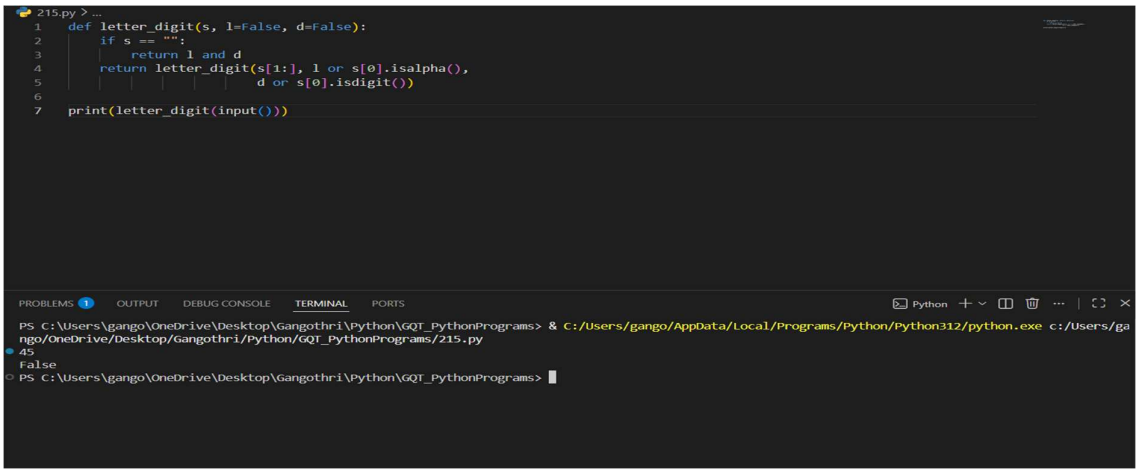
213. Write a Python Program to check if a string contains only whitespace using recursion



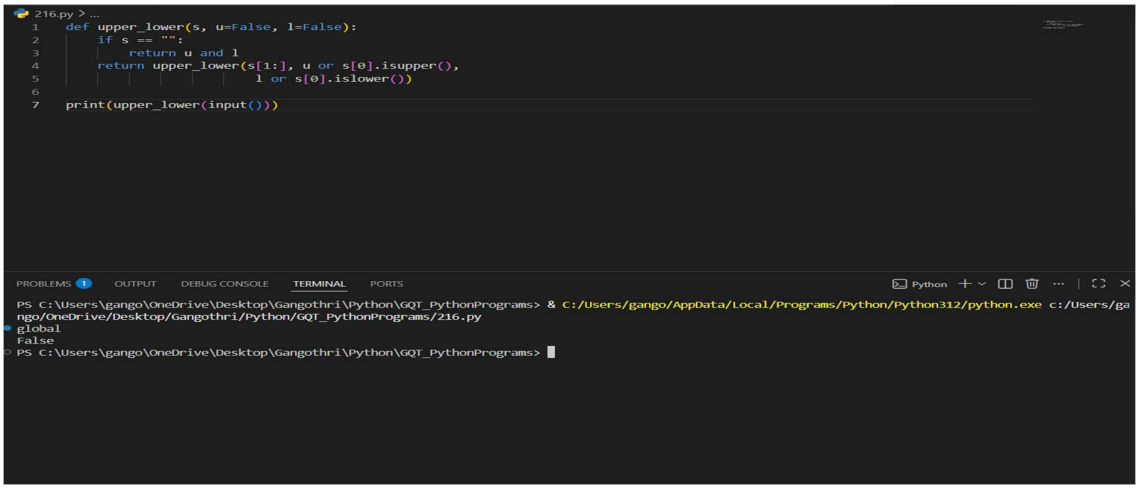
214. Write a Python Program to check if a string contains only special characters using recursion.



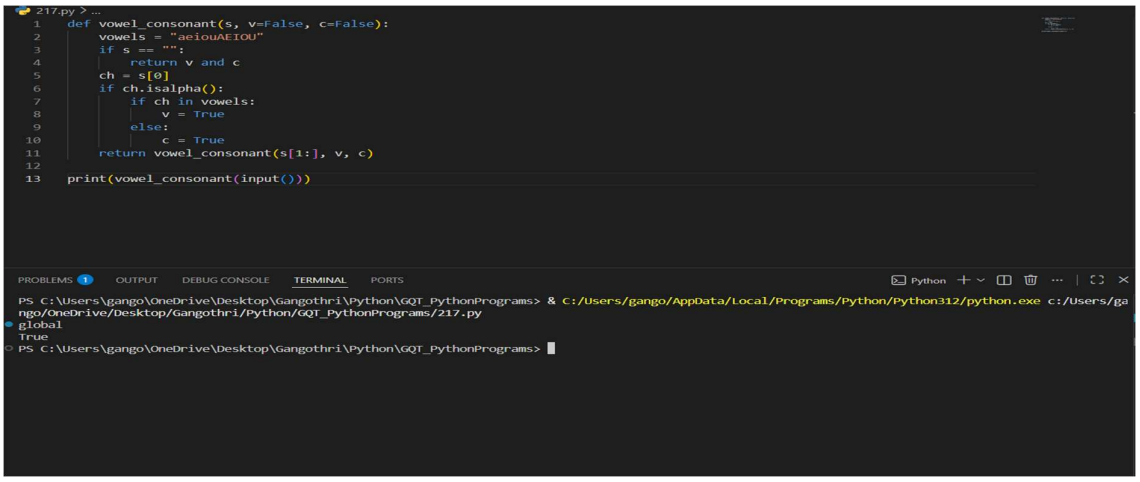
215. Write a Python Program to check if a string contains both letters and digits using recursion



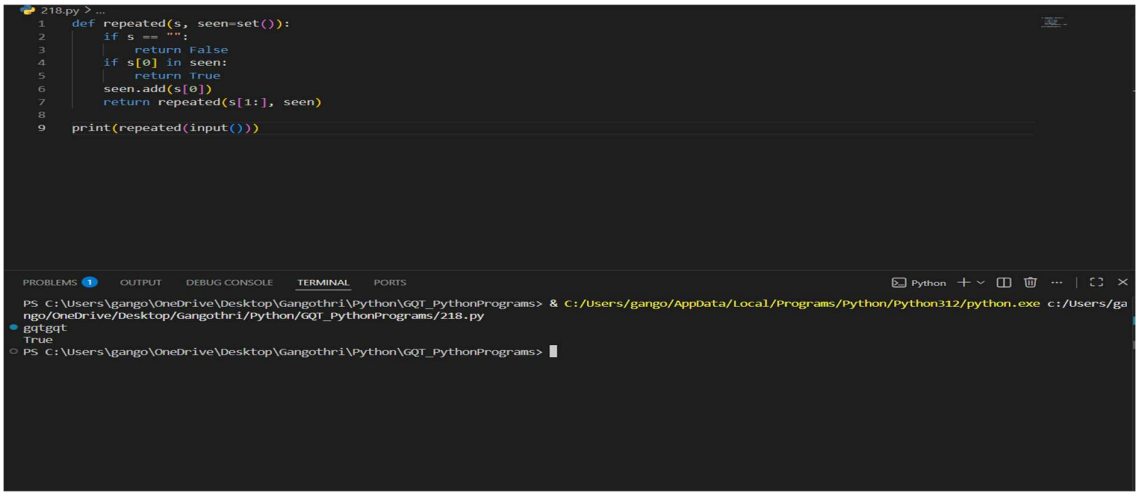
216. Write a Python Program to check if a string contains both uppercase and lowercase letters using recursion.



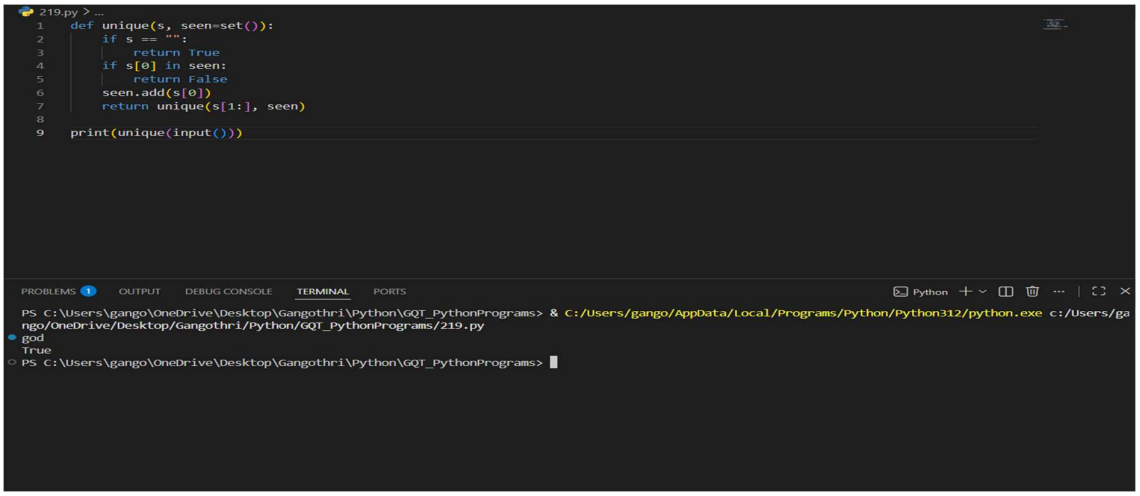
217. Write a Python Program to check if a string contains both vowels and consonants using recursion



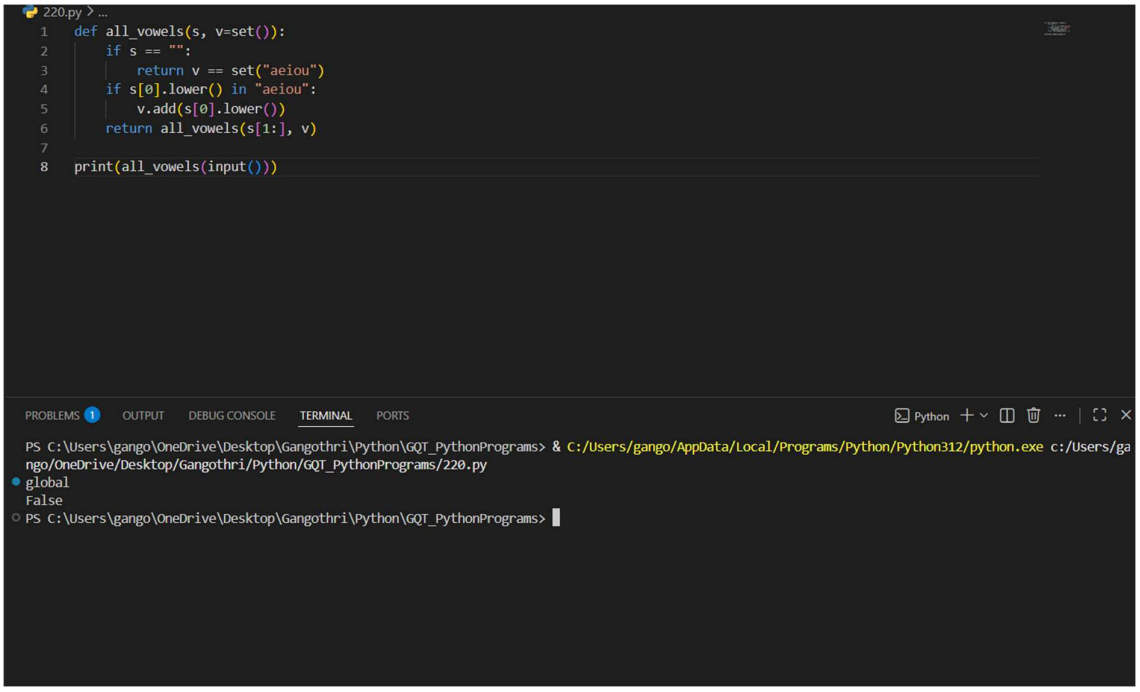
218. Write a Python Program to check if a string contains repeated characters using recursion



219. Write a Python Program to check if a string contains unique characters using recursion.



220. Write a Python Program to check if a string contains all vowels using recursion.



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