

Worksheet – 2.1

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Semester: 4th

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Subject Name: Programming in Python Lab

Subject Code: 20CSP-259

1. Aim/Overview of the practical:

- I. Python program to check whether the string is Symmetrical or Palindrome.
- II. Python program to find uncommon words from two Strings.
- III. Write a Python program to add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged. Example:- Sample String : 'abc' Expected Result : 'abcing' Sample String : 'string' Expected Result : 'stringly'

2. Task to be done/ Which logistics used:

- I. Check whether the string is Symmetrical or Palindrome.
- II. Find uncommon words from two Strings.
- III. Add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged.

3. Steps for experiment/practical/Code:

- I. Check whether the string is Symmetrical or Palindrome.

Source Code:

```
# Symmetrical Function
def symm(string):
    l = len(string)
    flag = 0
    if l%2 == 0:
        mid = l//2
    else:
        mid = l//2 + 1
    s1 = 0
    s2 = mid
    while(s1 < mid and s2 < l):
```

```
if (string[s1] == string[s2]):  
    s1 = s1 + 1  
    s2 = s2 + 1  
else:  
    flag = 1  
    break  
if flag == 0:  
    print("The entered string { } is symmetrical".format(string))  
else:  
    print("The entered string { } is not symmetrical".format(string))
```

Palindrome Function

```
def palin(string):  
    st = 0  
    end = len(string)-1  
    f = 0  
    while(st<end):  
        if (string[st]== string[end]):  
            st += 1  
            end -= 1  
        else:  
            f = 1  
            break  
    if f == 0:  
        print("The entered string { } is palindrome".format(string))  
    else:  
        print("The entered string { } is not palindrome".format(string))
```

Main code

```
string = input("Enter the string: ")  
palin(string)  
symm(string)
```

II. Find uncommon words from two Strings.**Source Code:**

```
# Iterative method
def iterate_uncommon(s1,s2):
    list_s1 = s1.split()
    list_s2 = s2.split()
    uc_words = ""
    for i in list_s1:
        if i not in list_s2:
            uc_words = uc_words+" "+i
    for j in list_s2:
        if j not in list_s1:
            uc_words = uc_words+" "+j
    return uc_words

s1=str(input('Enter 1st String: '))
s2=str(input('Enter 2nd String: '))

# Print required answer
print(iterate_uncommon(s1,s2))
```

III. Add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged.**Source Code:**

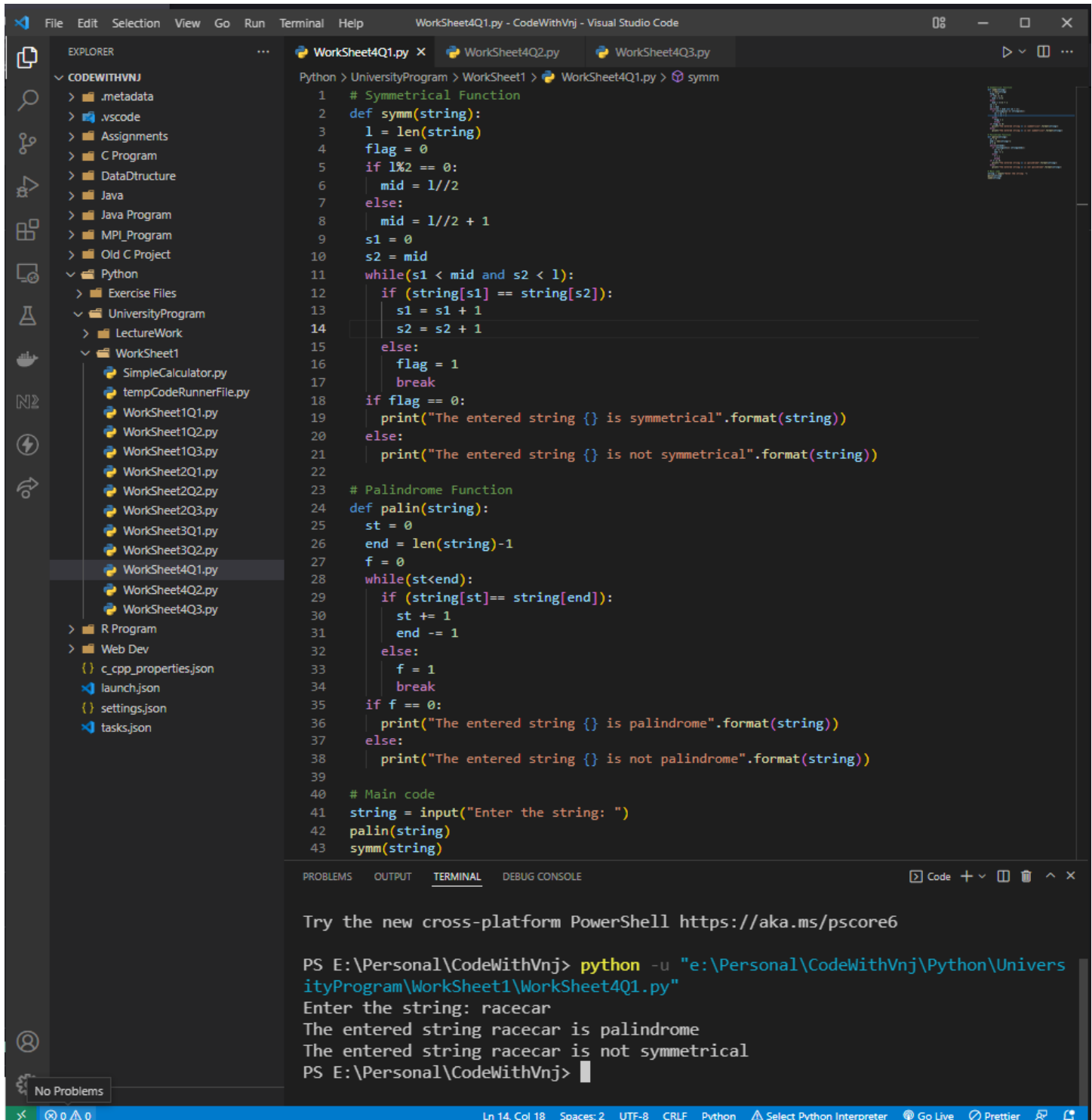
```
def inglify(string):
    if len(string) < 3:
        return string
    elif string.endswith('ing'):
        return string + 'ly'
    else:
        return string + 'ing'

string = input("Enter The String: ")
print(inglify(string))
```

4. Result/Output/Writing Summary:

I. Find area of Circle using different types of method.

Output:



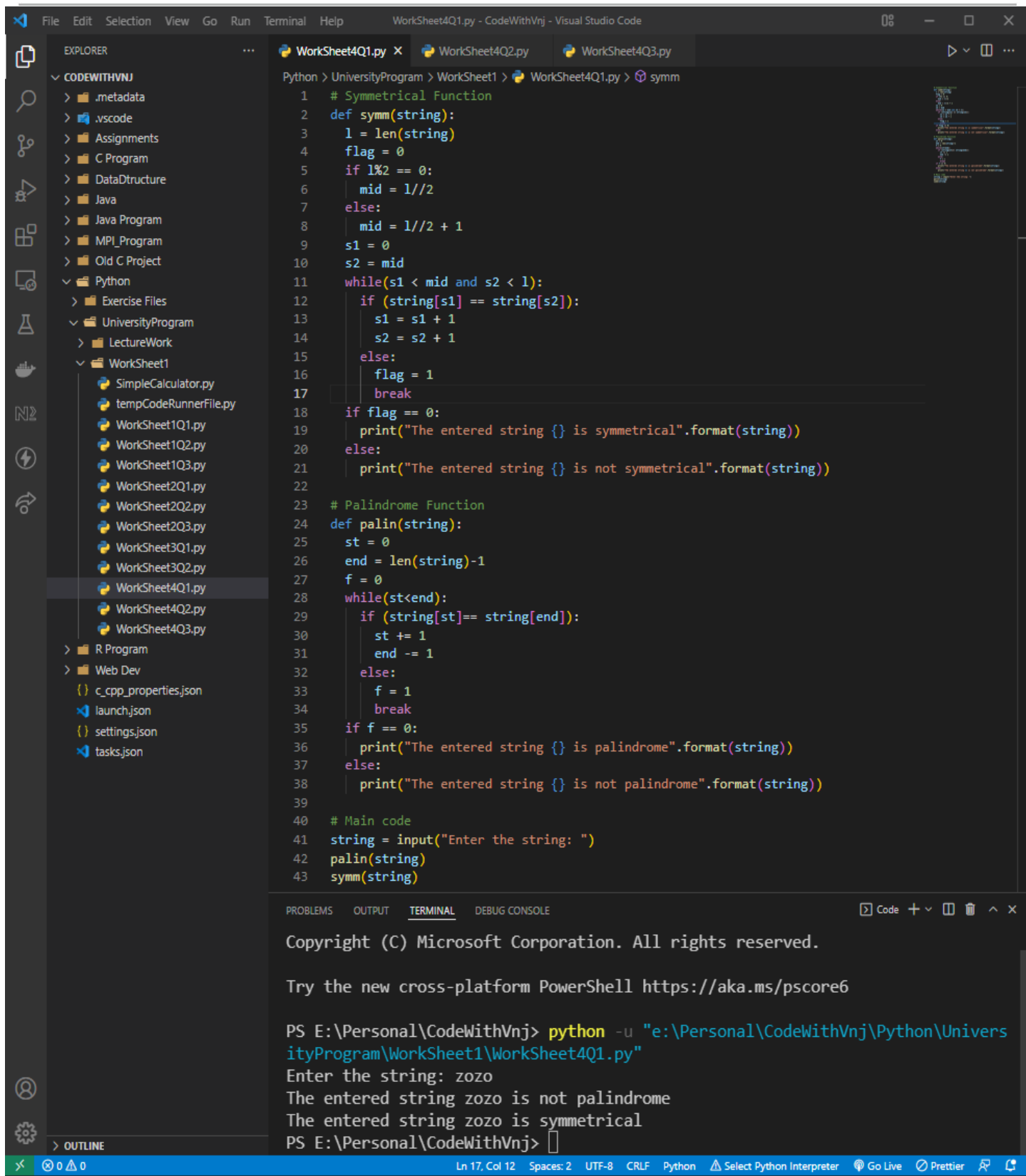
```

1 # Symmetrical Function
2 def symm(string):
3     l = len(string)
4     flag = 0
5     if l%2 == 0:
6         mid = l//2
7     else:
8         mid = l//2 + 1
9     s1 = 0
10    s2 = mid
11    while(s1 < mid and s2 < l):
12        if (string[s1] == string[s2]):
13            s1 = s1 + 1
14            s2 = s2 + 1
15        else:
16            flag = 1
17            break
18    if flag == 0:
19        print("The entered string {} is symmetrical".format(string))
20    else:
21        print("The entered string {} is not symmetrical".format(string))
22
23 # Palindrome Function
24 def palin(string):
25     st = 0
26     end = len(string)-1
27     f = 0
28     while(st<end):
29         if (string[st]== string[end]):
30             st += 1
31             end -= 1
32         else:
33             f = 1
34             break
35    if f == 0:
36        print("The entered string {} is palindrome".format(string))
37    else:
38        print("The entered string {} is not palindrome".format(string))
39
40 # Main code
41 string = input("Enter the string: ")
42 palin(string)
43 symm(string)
    
```

Try the new cross-platform PowerShell <https://aka.ms/pscore6>

```

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet4Q1.py"
Enter the string: racecar
The entered string racecar is palindrome
The entered string racecar is not symmetrical
PS E:\Personal\CodeWithVnj>
    
```



The screenshot shows the Visual Studio Code interface with a Python file named `WorkSheet4Q1.py` open. The code defines two functions: `symm` for checking symmetrical strings and `palin` for checking palindromes. The `symm` function uses a two-pointer approach, while the `palin` function uses a single pointer. The main code prompts the user to enter a string and calls both functions.

```

1  # Symmetrical Function
2  def symm(string):
3      l = len(string)
4      flag = 0
5      if l%2 == 0:
6          mid = l//2
7      else:
8          mid = l//2 + 1
9      s1 = 0
10     s2 = mid
11     while(s1 < mid and s2 < l):
12         if (string[s1] == string[s2]):
13             s1 = s1 + 1
14             s2 = s2 + 1
15         else:
16             flag = 1
17             break
18     if flag == 0:
19         print("The entered string {} is symmetrical".format(string))
20     else:
21         print("The entered string {} is not symmetrical".format(string))
22
23 # Palindrome Function
24 def palin(string):
25     st = 0
26     end = len(string)-1
27     f = 0
28     while(st<end):
29         if (string[st]== string[end]):
30             st += 1
31             end -= 1
32         else:
33             f = 1
34             break
35     if f == 0:
36         print("The entered string {} is palindrome".format(string))
37     else:
38         print("The entered string {} is not palindrome".format(string))
39
40 # Main code
41 string = input("Enter the string: ")
42 palin(string)
43 symm(string)

```

The terminal output shows the execution of the program with the input string "zozo":

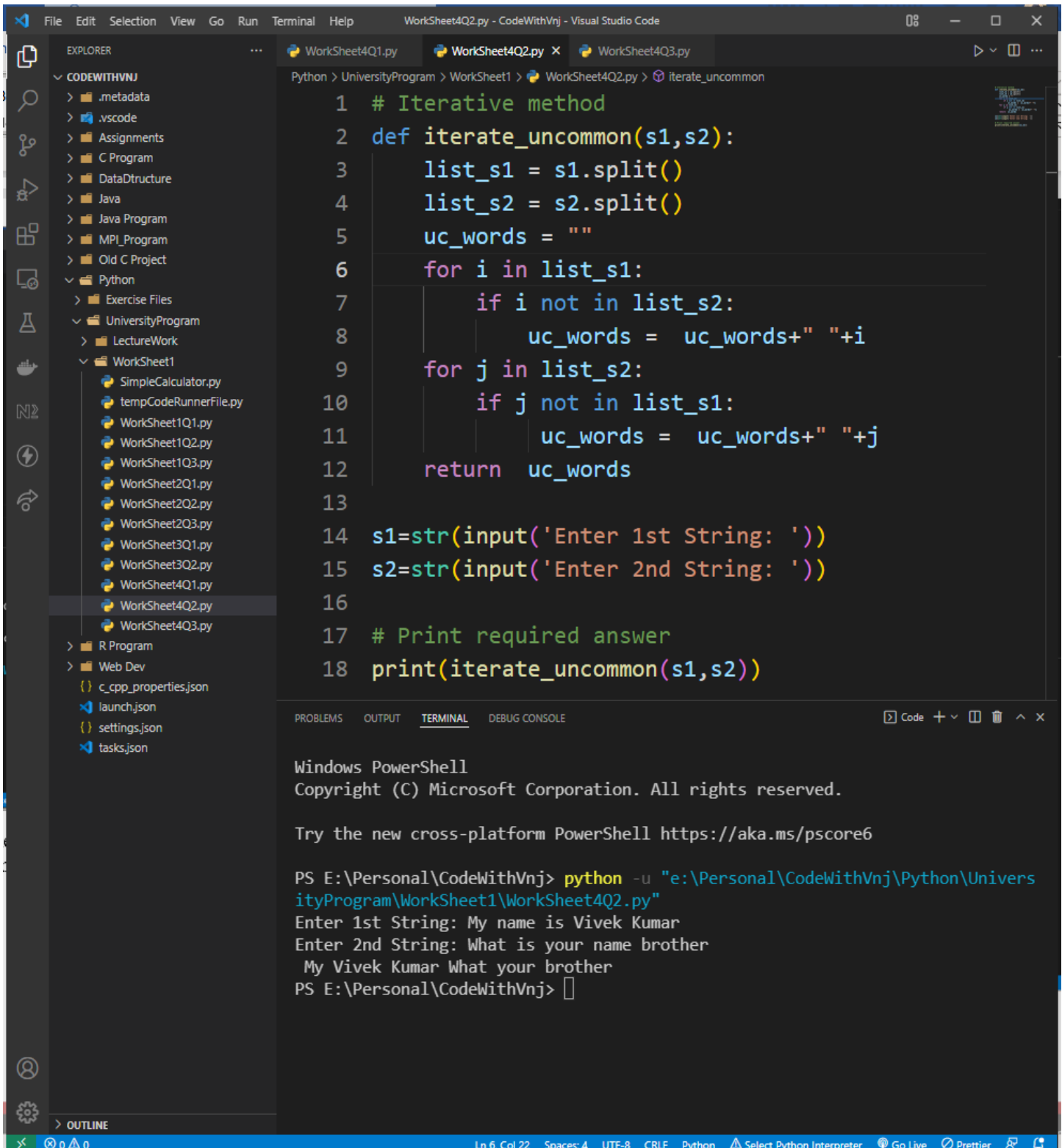
```

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet4Q1.py"
Enter the string: zozo
The entered string zozo is not palindrome
The entered string zozo is symmetrical
PS E:\Personal\CodeWithVnj>

```

II. Find uncommon words from two Strings.

Output:



```

1 # Iterative method
2 def iterate_uncommon(s1,s2):
3     list_s1 = s1.split()
4     list_s2 = s2.split()
5     uc_words = ""
6     for i in list_s1:
7         if i not in list_s2:
8             uc_words = uc_words+" "+i
9     for j in list_s2:
10         if j not in list_s1:
11             uc_words = uc_words+" "+j
12     return uc_words
13
14 s1=str(input('Enter 1st String: '))
15 s2=str(input('Enter 2nd String: '))
16
17 # Print required answer
18 print(iterate_uncommon(s1,s2))

```

Windows PowerShell
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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet4Q2.py"

Enter 1st String: My name is Vivek Kumar

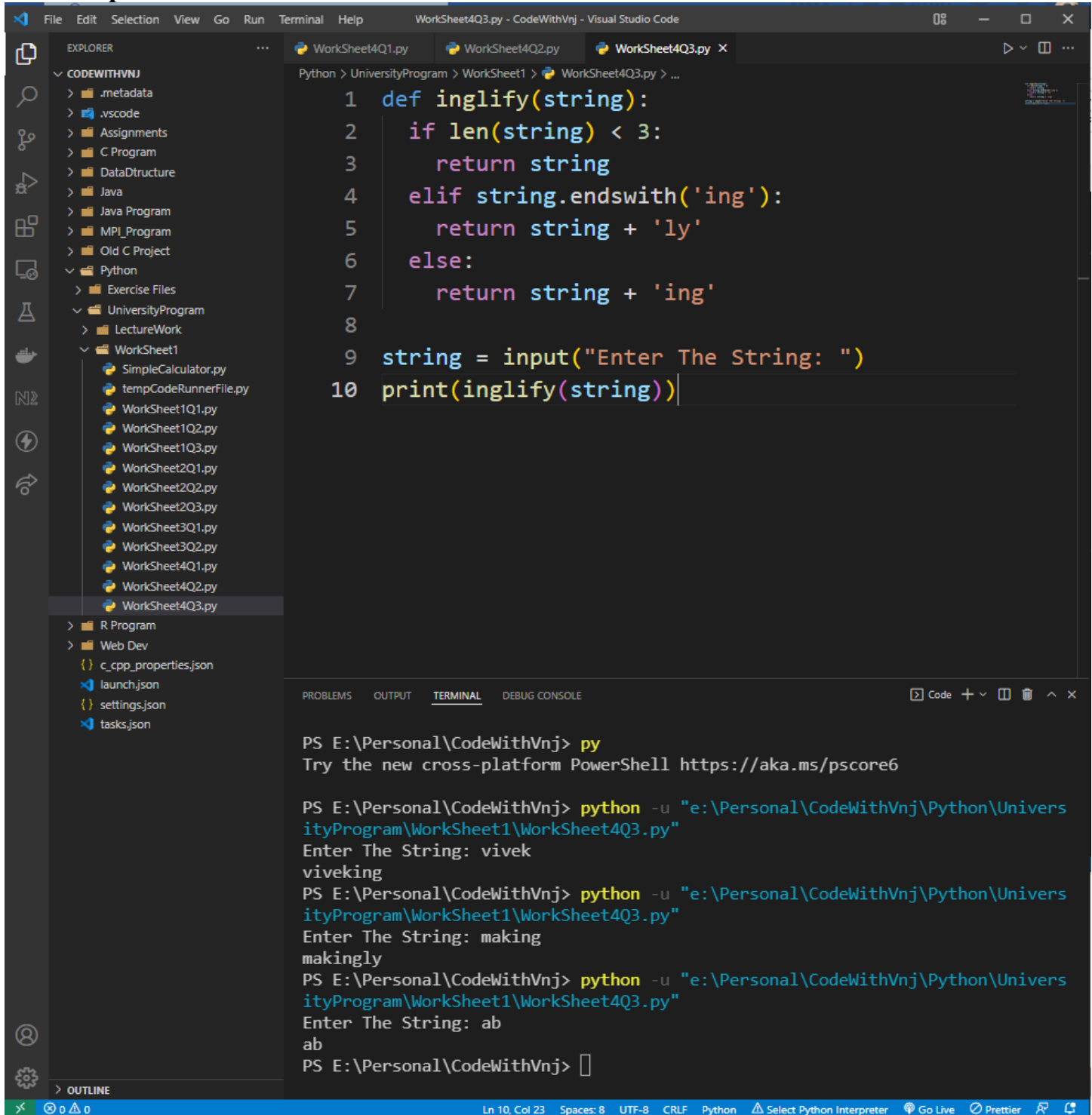
Enter 2nd String: What is your name brother

My Vivek Kumar What your brother

PS E:\Personal\CodeWithVnj>

- III. Add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged.

Output:



```

1  def inglify(string):
2      if len(string) < 3:
3          return string
4      elif string.endswith('ing'):
5          return string + 'ly'
6      else:
7          return string + 'ing'
8
9  string = input("Enter The String: ")
10 print(inglify(string))

```

```

PS E:\Personal\CodeWithVnj> py
Try the new cross-platform PowerShell https://aka.ms/powershell

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet4Q3.py"
Enter The String: vivek
viveking
PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet4Q3.py"
Enter The String: making
makingly
PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet4Q3.py"
Enter The String: ab
ab
PS E:\Personal\CodeWithVnj>

```

Learning outcomes (What I have learnt):

1. I have learnt, String Manipulation.
2. Learnt to find the Symmetrical & Palindrome String.
3. Learnt to compare the two sentences with each words.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			
4			