

Worksheet – 2.4

Student Name: Vivek Kumar

UID: 21BCS8129

Branch: BE-CSE (LEET)

Section/Group: 809/A

Semester: 4th

Date of Performance: 06/04/2022

Subject Name: Programming in Python Lab

Subject Code: 20CSP-259

1. Aim/Overview of the practical:

- I. Write a Python program to replace last value of tuples in a list.
- II. Write a Python program to remove an empty tuple(s) from a list of tuples.
- III. Write a Python program calculate the product, multiplying all the numbers of a given tuple.
- IV. Write a Python program to convert a tuple of string values to a tuple of integer values.
- V. Write a Python program to check if a specified element presents in a tuple of tuples.

2. Task to be done/ Which logistics used:

- I. Write a Python program to replace last value of tuples in a list.
- II. Write a Python program to remove an empty tuple(s) from a list of tuples.
- III. Write a Python program calculate the product, multiplying all the numbers of a given tuple.
- IV. Write a Python program to convert a tuple of string values to a tuple of integer values.
- V. Write a Python program to check if a specified element presents in a tuple of tuples.

3. Steps for experiment/practical/Code:

- I. Write a Python program to replace last value of tuples in a list.

Source Code:

```
list_tup = []
item=[]
n = int(input("Enter number of Size of List: "))
for i in range(0, n):
    print("Enter { }th tuple in list.".format(i+1))
    tn = int(input('Enter the Tuple Size: '))
    for j in range(0,tn):
        ele = int(input())
        item.append(ele)
    list_tup.append(tuple(item))
    item=[]
print('Given List of Tuples are: ',list_tup)
replacement=int(input('Enter the number for last tuple item: '))
print('Last item Replaced list of Tuples are: ',[t[:-1] + (replacement,) for t in list_tup])
```

- II.** Write a Python program to remove an empty tuple(s) from a list of tuples.

Source Code:

```
def removet(li):  
    li=[ num for num in li if num]  
    return li  
  
# Static list of tuples  
li=[ (), ('Studytonight', '1', '2'), (), ('3', '4', '5', '6') ]  
print('Given list of Tuples are: ',li)  
print('After Removing Empty Tuples: ',removet(li))
```

- III.** Write a Python program calculate the product, multiplying all the numbers of a given tuple.

Source Code:

```
def mutiple_tuple(nums):  
    temp = list(nums)  
    product = 1  
    for x in temp:  
        product *= x  
    return product  
  
item=[]  
n = int(input("Enter number of elements : "))  
for i in range(0, n):  
    print("Enter { }th elements of Tuples: ".format(i))  
    ele = int(input())  
    item.append(ele)  
nums=tuple(item)  
print ("Original Tuple: ")  
print(nums)  
print("Product - multiplying all the numbers of the given tuple:",mutiple_tuple(nums))
```

- IV.** Write a Python program to convert a tuple of string values to a tuple of integer values.

Source Code:

```
def tuple_int_converter(tuple_str):  
    int_item=[]  
    for x in tuple_str:  
        int_item.append(int(x))  
    result=tuple(int_item)  
    return result
```

```
item=[]
n = int(input("Enter number of elements : "))
for i in range(0, n):
    print("Enter { }th elements of Tuples: ".format(i))
    ele = str(input())
    item.append(ele)
tuple_str=tuple(item)

print("\nOriginal tuple with String values:")
print(tuple_str)

print("\nNew tuple with integer values:")
print(tuple_int_converter(tuple_str))
```

- V. Write a Python program to check if a specified element presents in a tuple of tuples.

Source Code:

```
# Static tuples
my_tuple = (('Mon',10),('Tue',8),('Wed',8),('Thu',5))

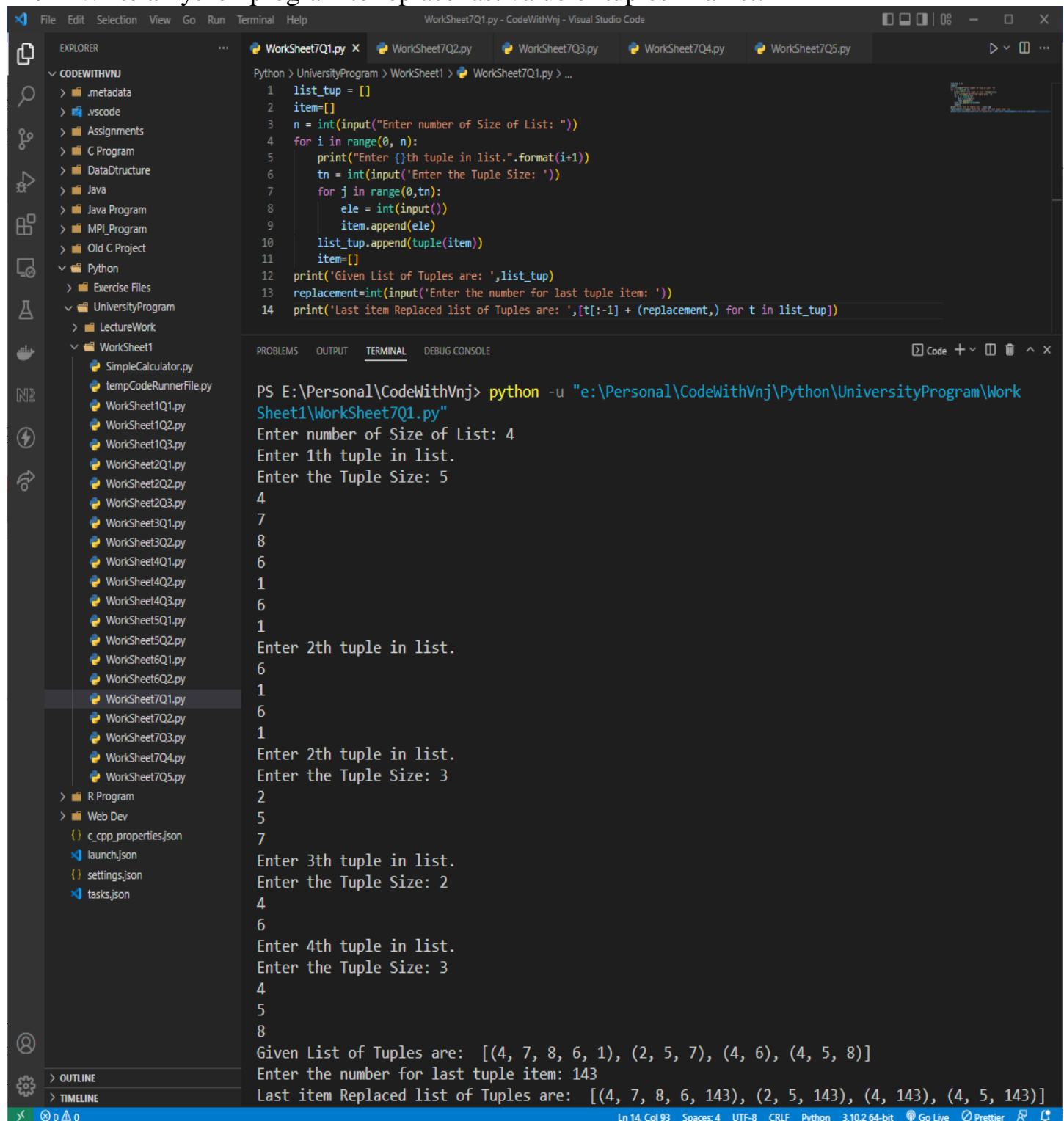
print("Given tuple: ",my_tuple)
inputtype=input('Do you want to search string (y/n): ')

if inputtype=='y':
    key=input('Enter the Element want to search: ')
else:
    key=int(input('Enter the Element want to search: '))

if any(key in i for i in my_tuple):
    print("present")
else :
    print("Not present")
```

4. Result/Output/Writing Summary:

I. Write a Python program to replace last value of tuples in a list.



The screenshot shows a Visual Studio Code editor with a Python program in a file named `WorkSheet7Q1.py`. The program is designed to create a list of tuples and then replace the last element of each tuple with a new value provided by the user.

```

1 list_tup = []
2 item=[]
3 n = int(input("Enter number of Size of List: "))
4 for i in range(0, n):
5     print("Enter {}th tuple in list.".format(i+1))
6     tn = int(input('Enter the Tuple Size: '))
7     for j in range(0,tn):
8         ele = int(input())
9         item.append(ele)
10    list_tup.append(tuple(item))
11    item=[]
12 print('Given List of Tuples are: ',list_tup)
13 replacement=int(input('Enter the number for last tuple item: '))
14 print('Last item Replaced list of Tuples are: ',[t[:-1] + (replacement,) for t in list_tup])

```

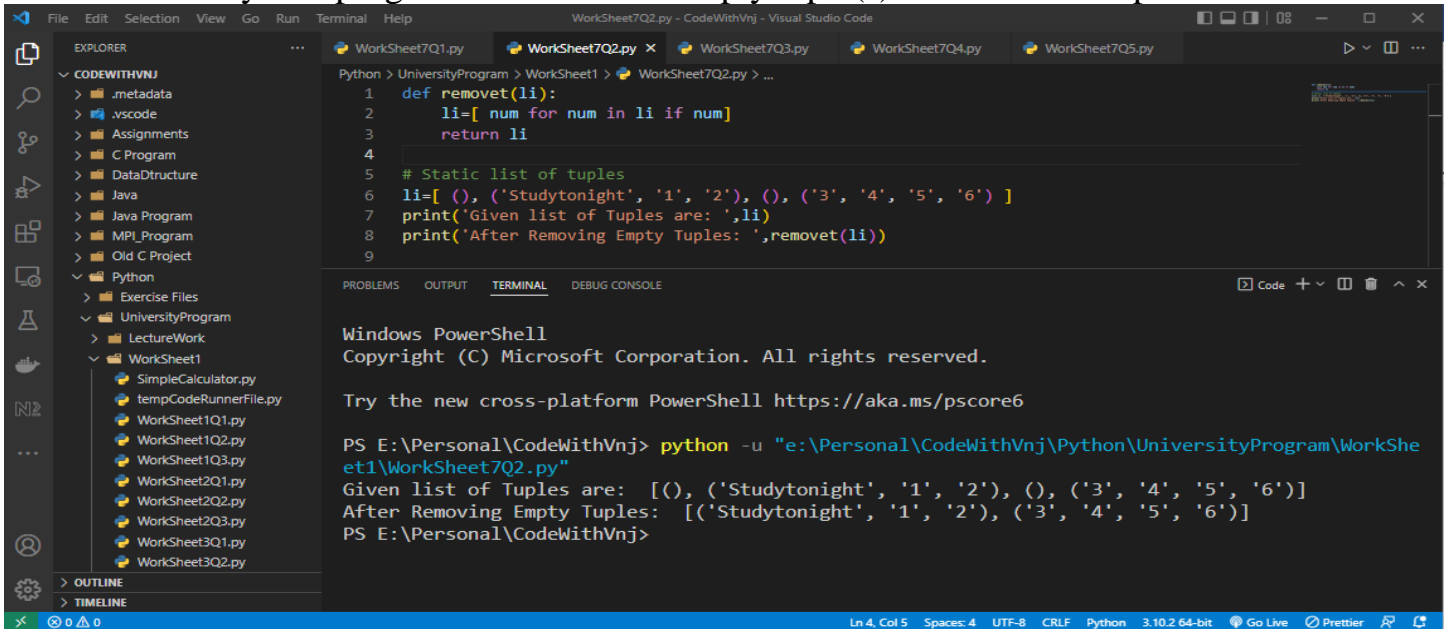
The terminal output shows the execution of the program. It prompts the user to enter the size of the list (4), then for each tuple, it prompts for the tuple size and its elements. Finally, it prompts for the index of the tuple to replace (143) and shows the resulting list of tuples with the last element of each tuple replaced by 143.

```

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\Work
Sheet1\WorkSheet7Q1.py"
Enter number of Size of List: 4
Enter 1th tuple in list.
Enter the Tuple Size: 5
4
7
8
6
1
6
1
Enter 2th tuple in list.
6
1
6
1
Enter 2th tuple in list.
Enter the Tuple Size: 3
2
5
7
Enter 3th tuple in list.
Enter the Tuple Size: 2
4
6
Enter 4th tuple in list.
Enter the Tuple Size: 3
4
5
8
Given List of Tuples are: [(4, 7, 8, 6, 1), (2, 5, 7), (4, 6), (4, 5, 8)]
Enter the number for last tuple item: 143
Last item Replaced list of Tuples are: [(4, 7, 8, 6, 143), (2, 5, 143), (4, 143), (4, 5, 143)]

```

II. Write a Python program to remove an empty tuple(s) from a list of tuples.



```

Python > UniversityProgram > Worksheet1 > Worksheet7Q2.py > ...
1  def removet(li):
2      li=[ num for num in li if num]
3      return li
4
5  # Static list of tuples
6  li=[ (), ('Studytonight', '1', '2'), (), ('3', '4', '5', '6') ]
7  print('Given list of Tuples are: ',li)
8  print('After Removing Empty Tuples: ',removet(li))
9

```

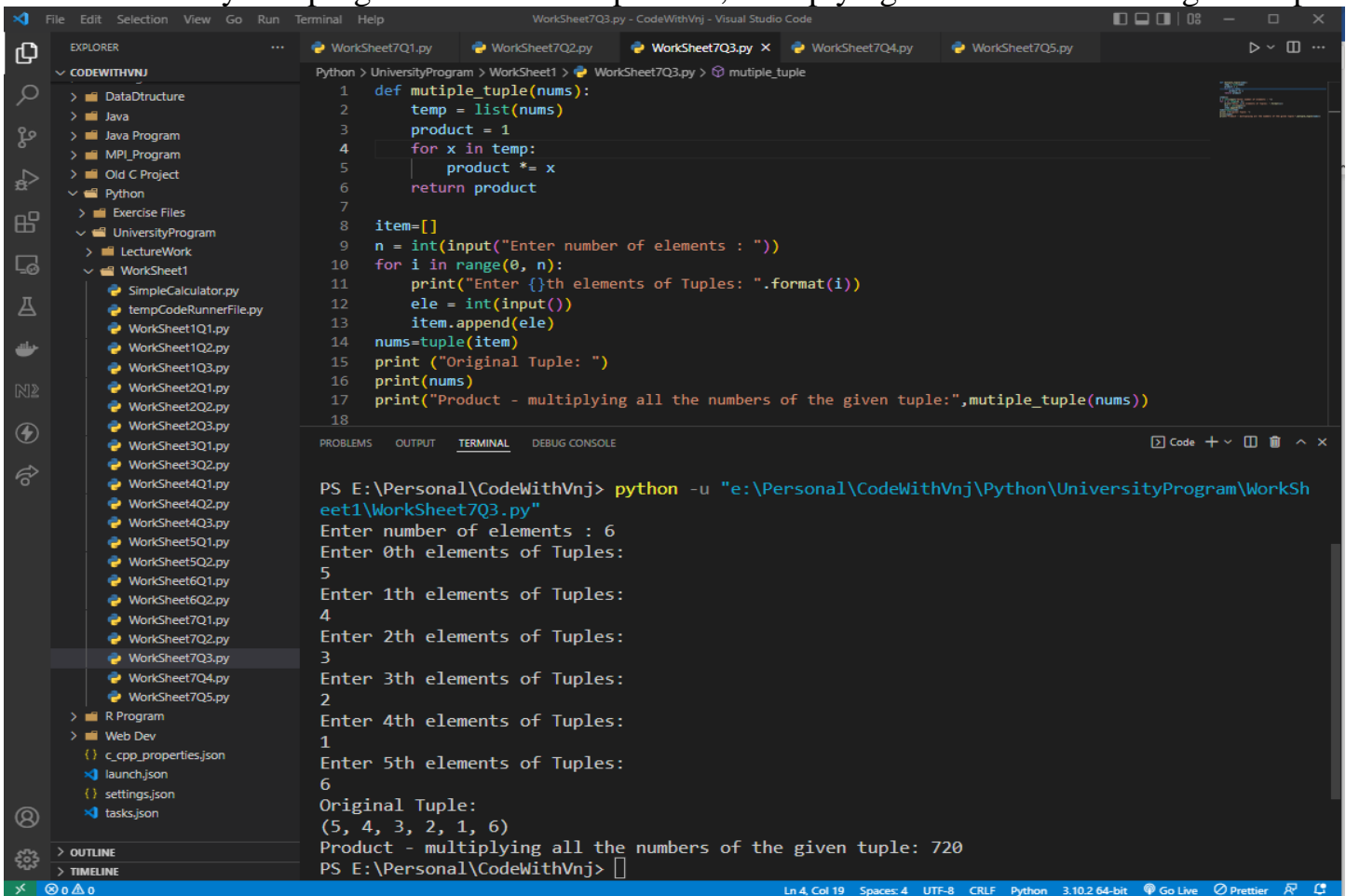
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\Worksheet1\Worksheet7Q2.py"

Given list of Tuples are: [(), ('Studytonight', '1', '2'), (), ('3', '4', '5', '6')]
After Removing Empty Tuples: [('Studytonight', '1', '2'), ('3', '4', '5', '6')]
PS E:\Personal\CodeWithVnj>

III. Write a Python program calculate the product, multiplying all the numbers of a given tuple.



```

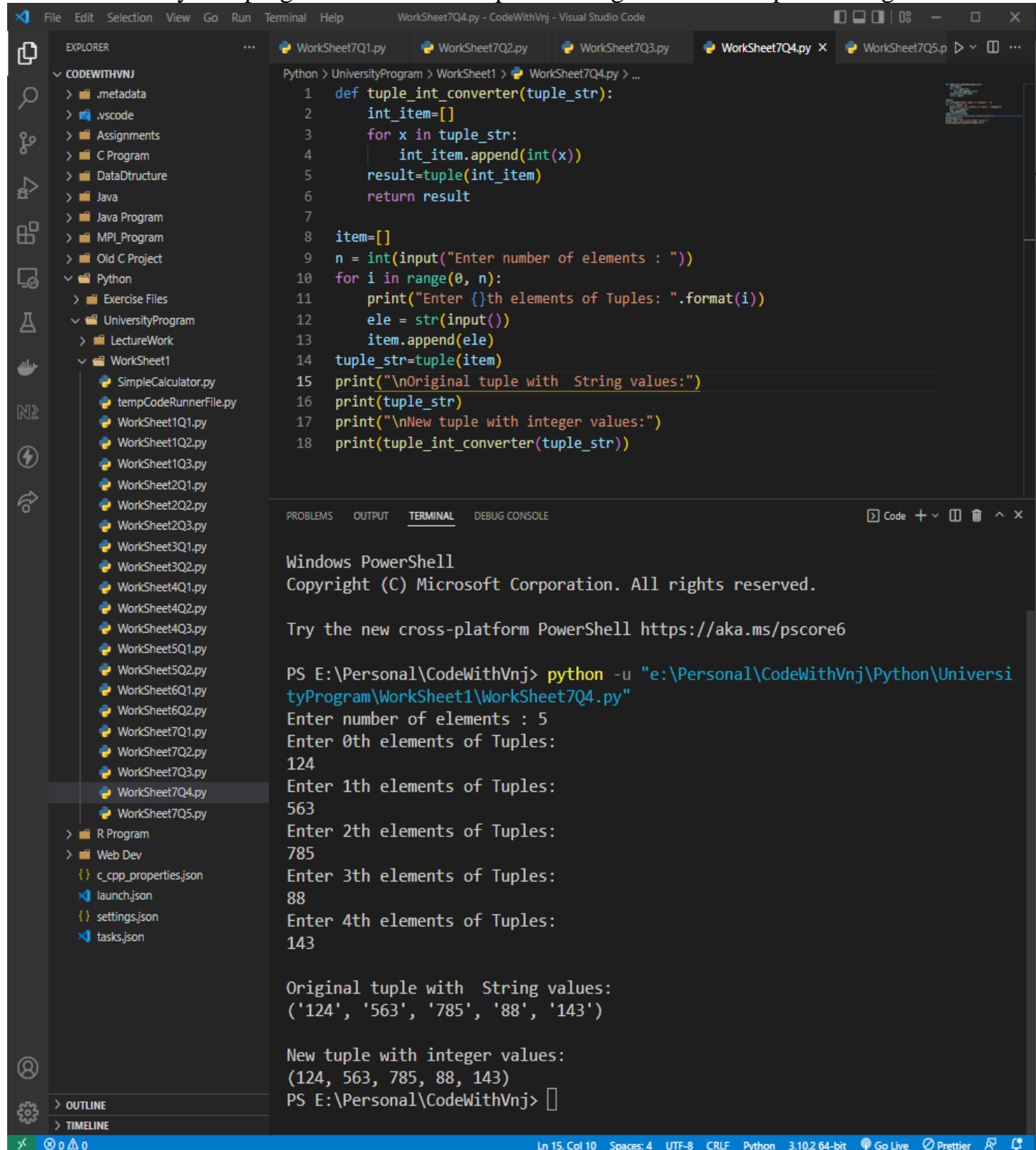
Python > UniversityProgram > Worksheet1 > Worksheet7Q3.py > multiple_tuple
1  def mutiple_tuple(nums):
2      temp = list(nums)
3      product = 1
4      for x in temp:
5          product *= x
6      return product
7
8  item=[]
9  n = int(input("Enter number of elements : "))
10 for i in range(0, n):
11     print("Enter {}th elements of Tuples: ".format(i))
12     ele = int(input())
13     item.append(ele)
14     nums=tuple(item)
15     print ("Original Tuple: ")
16     print(nums)
17     print("Product - multiplying all the numbers of the given tuple:",mutiple_tuple(nums))
18

```

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\Worksheet1\Worksheet7Q3.py"

Enter number of elements : 6
Enter 0th elements of Tuples:
5
Enter 1th elements of Tuples:
4
Enter 2th elements of Tuples:
3
Enter 3th elements of Tuples:
2
Enter 4th elements of Tuples:
1
Enter 5th elements of Tuples:
6
Original Tuple:
(5, 4, 3, 2, 1, 6)
Product - multiplying all the numbers of the given tuple: 720
PS E:\Personal\CodeWithVnj>

IV. Write a Python program to convert a tuple of string values to a tuple of integer values.



The screenshot shows the Visual Studio Code interface with a Python file named `WorkSheet7Q4.py` open. The code defines a function `tuple_int_converter` that takes a tuple of strings and returns a tuple of integers. The main program prompts the user for the number of elements, then for each element, and finally prints the original and converted tuples.

```

1 def tuple_int_converter(tuple_str):
2     int_item=[]
3     for x in tuple_str:
4         int_item.append(int(x))
5     result=tuple(int_item)
6     return result
7
8 item=[]
9 n = int(input("Enter number of elements : "))
10 for i in range(0, n):
11     print("Enter {}th elements of Tuples: ".format(i))
12     ele = str(input())
13     item.append(ele)
14 tuple_str=tuple(item)
15 print("\nOriginal tuple with String values:")
16 print(tuple_str)
17 print("\nNew tuple with integer values:")
18 print(tuple_int_converter(tuple_str))

```

The terminal output shows the execution of the program:

```

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

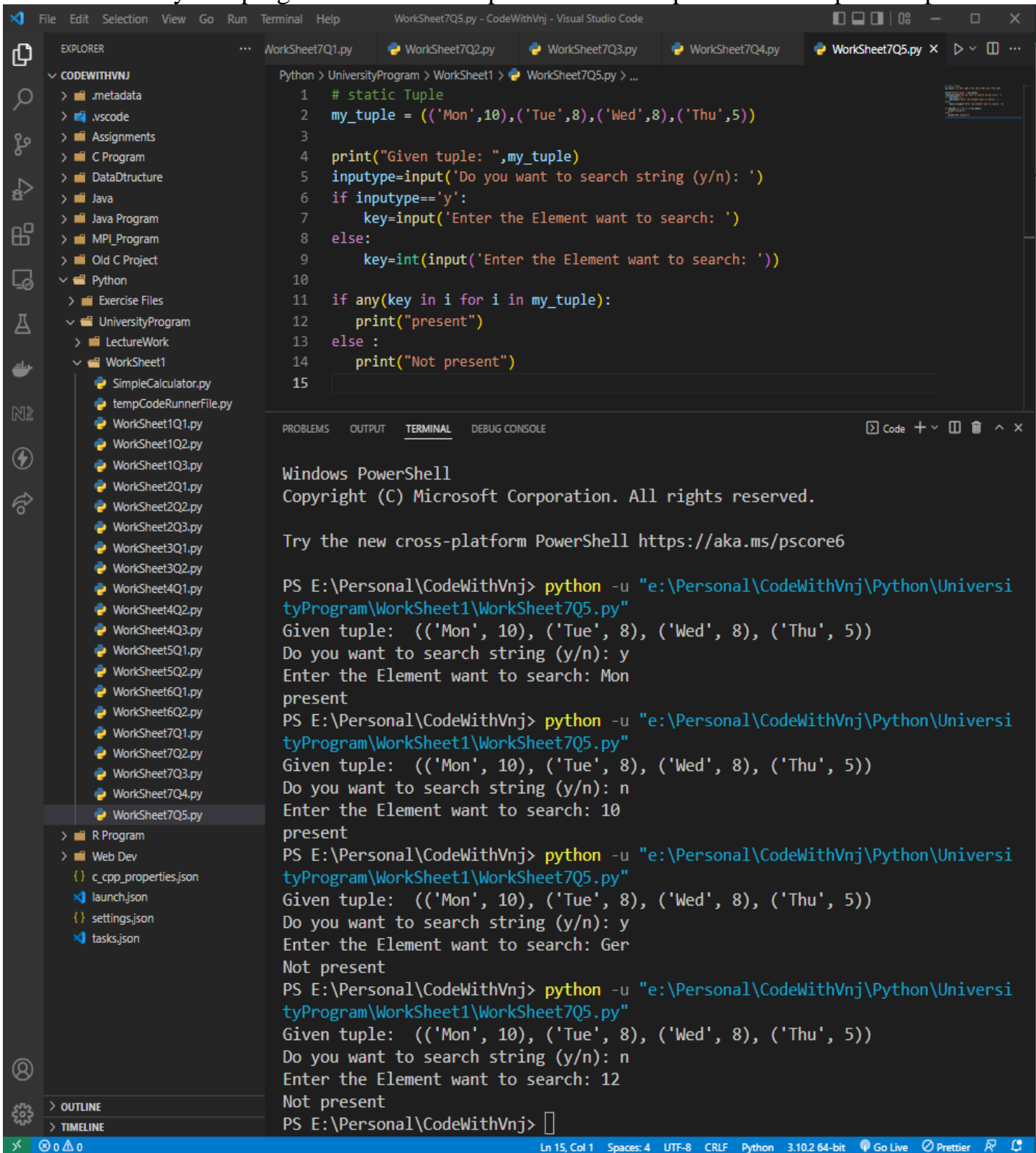
PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet7Q4.py"
Enter number of elements : 5
Enter 0th elements of Tuples: 124
Enter 1th elements of Tuples: 563
Enter 2th elements of Tuples: 785
Enter 3th elements of Tuples: 88
Enter 4th elements of Tuples: 143

Original tuple with String values:
('124', '563', '785', '88', '143')

New tuple with integer values:
(124, 563, 785, 88, 143)
PS E:\Personal\CodeWithVnj>

```


V. Write a Python program to check if a specified element presents in a tuple of tuples.



```

Python > UniversityProgram > WorkSheet1 > WorkSheet7Q5.py > ...
1  # static Tuple
2  my_tuple = (('Mon',10),('Tue',8),('Wed',8),('Thu',5))
3
4  print("Given tuple: ",my_tuple)
5  inputtype=input('Do you want to search string (y/n): ')
6  if inputtype=='y':
7      key=input('Enter the Element want to search: ')
8  else:
9      key=int(input('Enter the Element want to search: '))
10
11 if any(key in i for i in my_tuple):
12     print("present")
13 else :
14     print("Not present")
15

```

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet7Q5.py"

Given tuple: (('Mon', 10), ('Tue', 8), ('Wed', 8), ('Thu', 5))
Do you want to search string (y/n): y
Enter the Element want to search: Mon
present

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet7Q5.py"

Given tuple: (('Mon', 10), ('Tue', 8), ('Wed', 8), ('Thu', 5))
Do you want to search string (y/n): n
Enter the Element want to search: 10
present

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet7Q5.py"

Given tuple: (('Mon', 10), ('Tue', 8), ('Wed', 8), ('Thu', 5))
Do you want to search string (y/n): y
Enter the Element want to search: Ger
Not present

PS E:\Personal\CodeWithVnj> python -u "e:\Personal\CodeWithVnj\Python\UniversityProgram\WorkSheet1\WorkSheet7Q5.py"

Given tuple: (('Mon', 10), ('Tue', 8), ('Wed', 8), ('Thu', 5))
Do you want to search string (y/n): n
Enter the Element want to search: 12
Not present

PS E:\Personal\CodeWithVnj>

Learning outcomes (What I have learnt):

1. I have learnt, how to take List as well as Tuple Input from User.
2. Learnt to manipulate tuple with their last element.
3. Learnt to tuple Manipulation.

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			