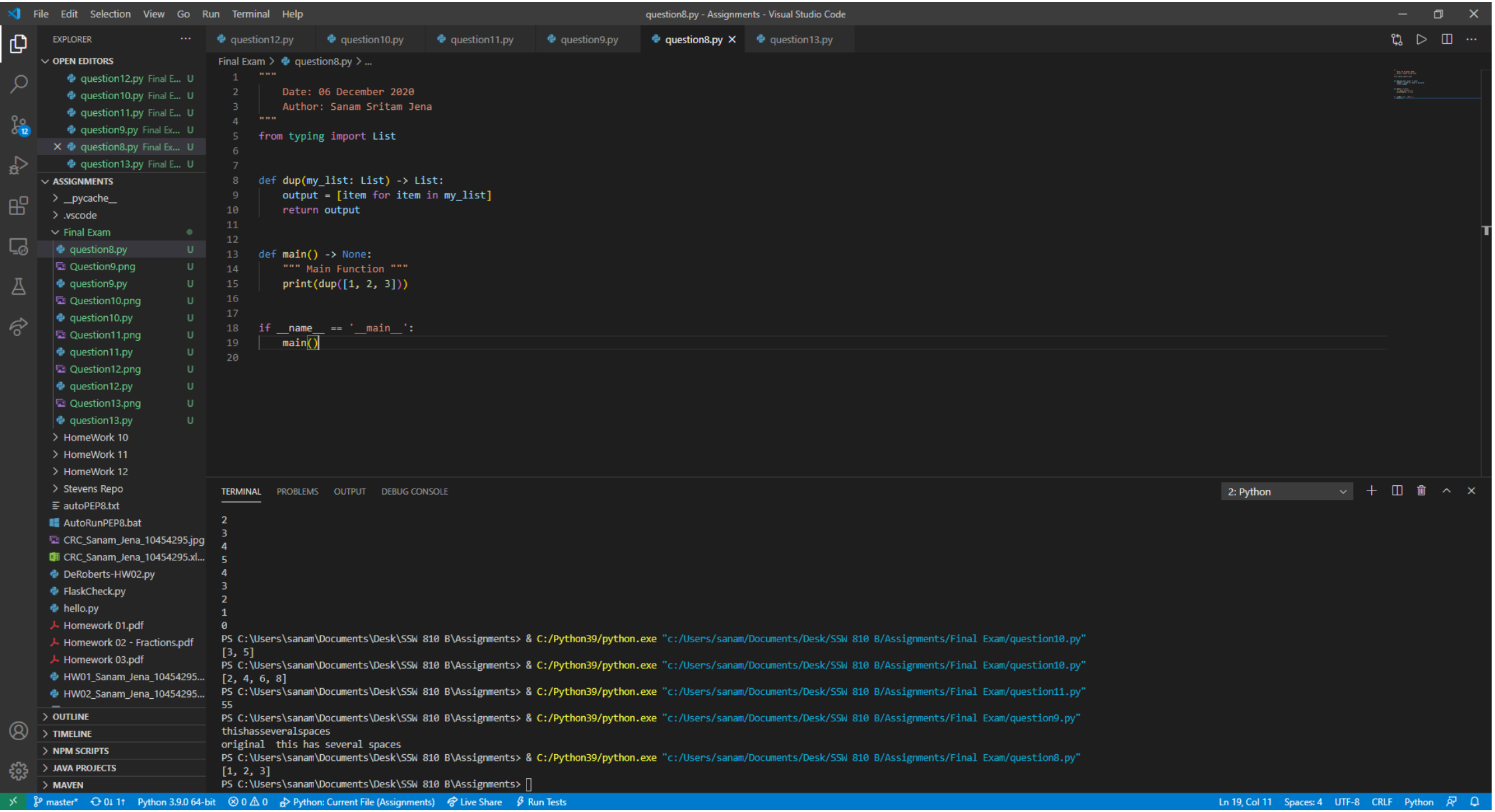
Question 8


File Edit Selection View Go Run Terminal Help
question8.py - Assignments - Visual Studio Code
EXPLORER
OPEN EDITORS
question12.py Final E... U
question10.py Final E... U
question11.py Final E... U
question9.py Final Ex... U
question8.py Final Ex... U
question13.py Final E... U
ASSIGNMENTS
__pycache__
.vscode
Final Exam
question8.py U
Question9.png U
question9.py U
Question10.png U
question10.py U
Question11.png U
question11.py U
Question12.png U
question12.py U
Question13.png U
question13.py U
HomeWork 10
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AutoRunPEP8.bat
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DeRoberts-HW02.py
FlaskCheck.py
hello.py
Homework 01.pdf
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Homework 03.pdf
HW01_Sanam_Jena_10454295...
HW02_Sanam_Jena_10454295...
OUTLINE
TIMELINE
NPM SCRIPTS
JAVA PROJECTS
MAVEN
question12.py
question10.py
question11.py
question9.py
question8.py
question13.py
Final Exam > question8.py > ...
1 """
2 Date: 06 December 2020
3 Author: Sanam Sritam Jena
4 """
5 from typing import List
6
7
8 def dup(my_list: List) -> List:
9 output = [item for item in my_list]
10 return output
11
12
13 def main() -> None:
14 """ Main Function """
15 print(dup([1, 2, 3]))
16
17
18 if __name__ == '__main__':
19 main()
20
TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE
2: Python
2
3
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1
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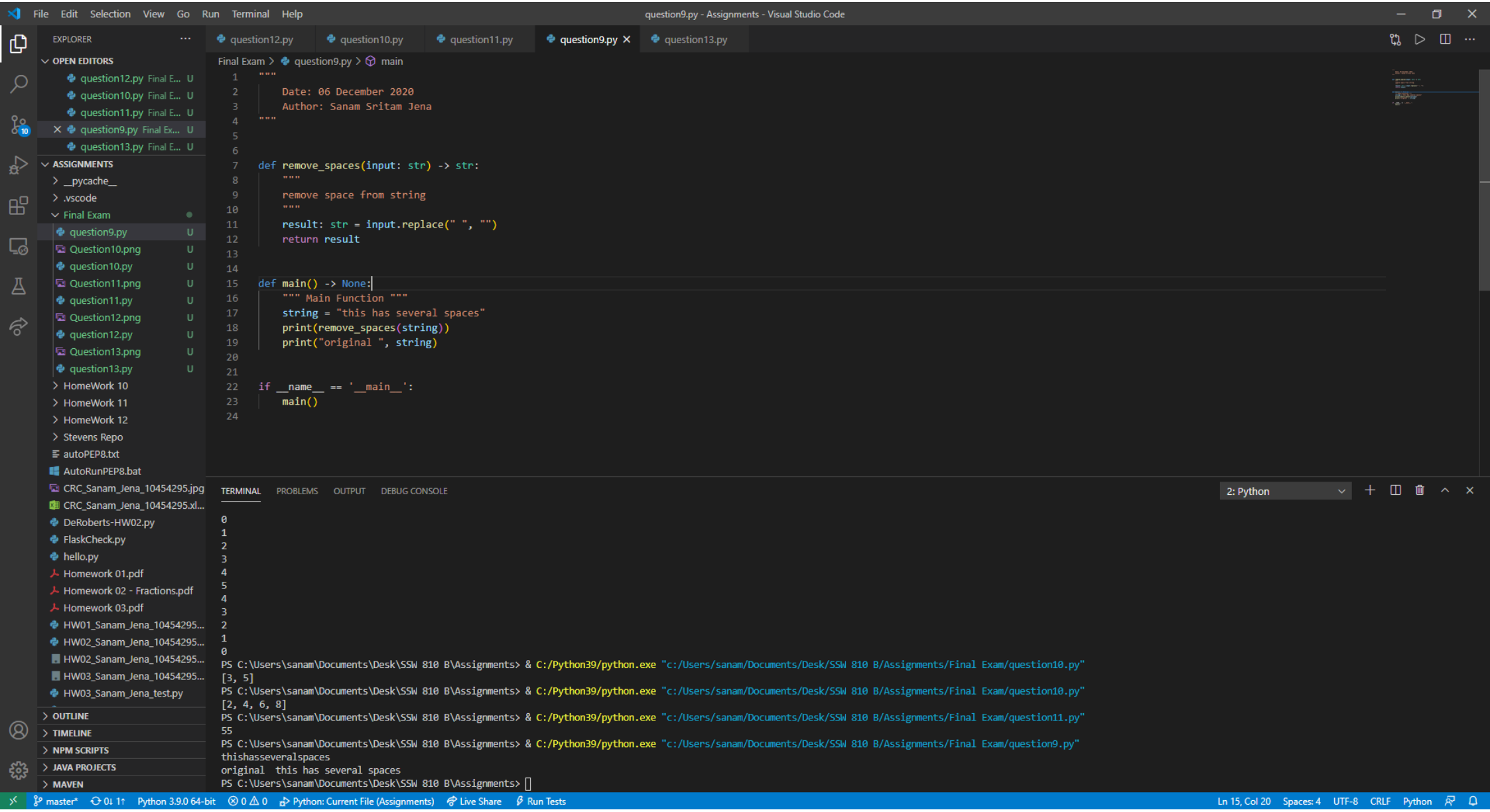
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
[3, 5]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
[2, 4, 6, 8]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question11.py"
55
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question9.py"
thishasseveralspaces
original this has several spaces
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question8.py"
[1, 2, 3]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>
master* 0↓ 1↑ Python 3.9.0 64-bit 0 0 Python: Current File (Assignments) Live Share Run Tests
Ln 19, Col 11 Spaces: 4 UTF-8 CRLF Python

Question 9


File Edit Selection View Go Run Terminal Help
question9.py - Assignments - Visual Studio Code
EXPLORER
OPEN EDITORS
question12.py Final E... U
question10.py Final E... U
question11.py Final E... U
question9.py Final Ex... U
question13.py Final E... U
ASSIGNMENTS
__pycache__
.vscode
Final Exam
question9.py U
Question10.png U
question10.py U
Question11.png U
question11.py U
Question12.png U
question12.py U
Question13.png U
question13.py U
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hello.py
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Homework 03.pdf
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HW02_Sanam_Jena_10454295...
HW02_Sanam_Jena_10454295...
HW03_Sanam_Jena_10454295...
HW03_Sanam_Jena_test.py
OUTLINE
TIMELINE
NPM SCRIPTS
JAVA PROJECTS
MAVEN
question12.py
question10.py
question11.py
question9.py
question13.py
Final Exam > question9.py > main
1 """
2 Date: 06 December 2020
3 Author: Sanam Sritam Jena
4 """
5
6
7 def remove_spaces(input: str) -> str:
8 """
9 remove space from string
10 """
11 result: str = input.replace(" ", "")
12 return result
13
14
15 def main() -> None:
16 """ Main Function """
17 string = "this has several spaces"
18 print(remove_spaces(string))
19 print("original ", string)
20
21
22 if __name__ == '__main__':
23 main()
24
TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE
2: Python
0
1
2
3
4
5
4
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2
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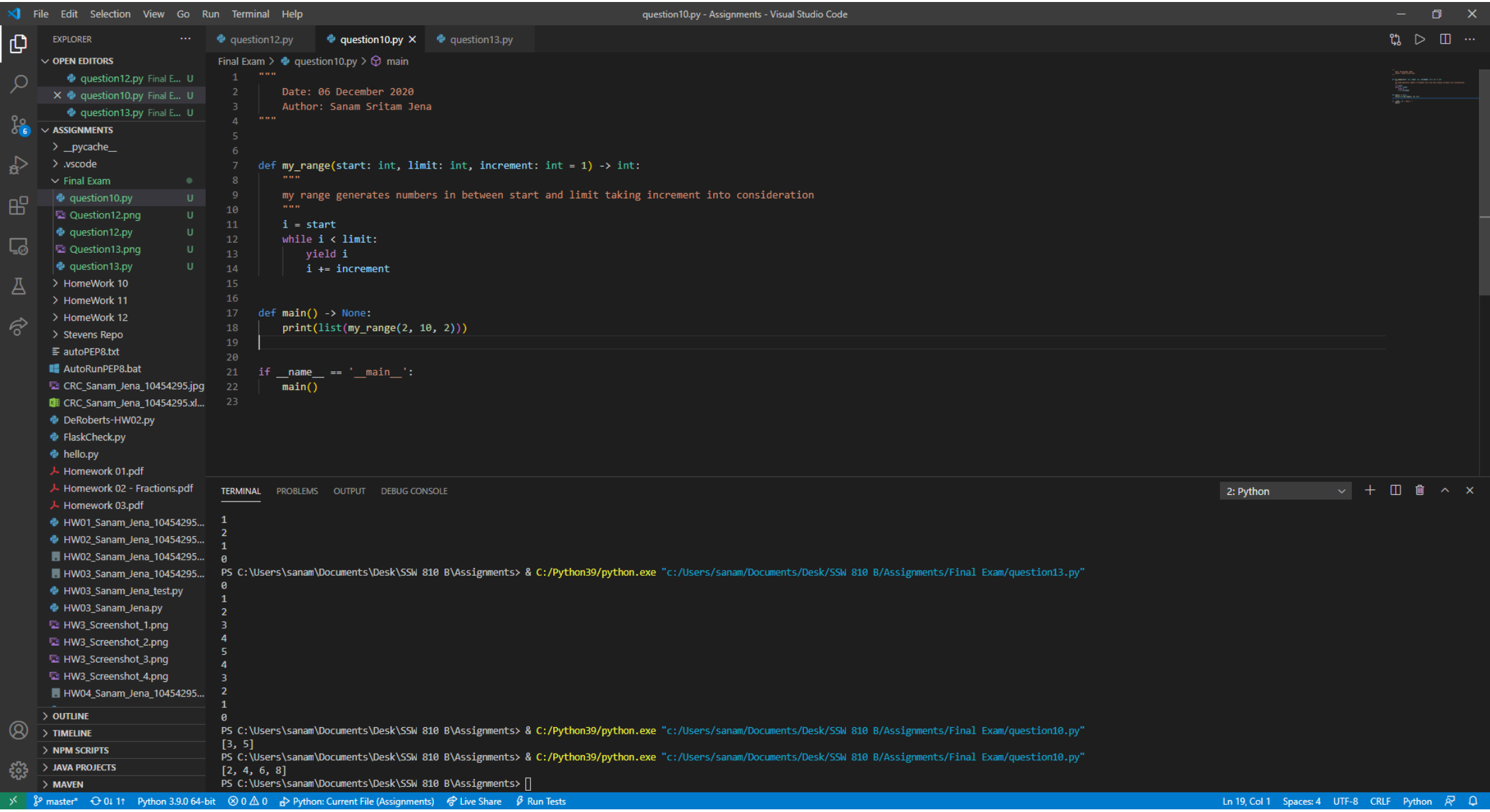
0
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
[3, 5]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
[2, 4, 6, 8]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question11.py"
55
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question9.py"
thishasseveralspaces
original this has several spaces
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>
master* 0↓ 1↑ Python 3.9.0 64-bit 0 0 Python: Current File (Assignments) Live Share Run Tests
Ln 15, Col 20 Spaces: 4 UTF-8 CRLF Python

Question 10


File Edit Selection View Go Run Terminal Help
question10.py - Assignments - Visual Studio Code
EXPLORER
OPEN EDITORS
question12.py Final E... U
question10.py Final E... U
question13.py Final E... U
ASSIGNMENTS
__pycache__
.vscode
Final Exam
question10.py U
Question12.png U
question12.py U
Question13.png U
question13.py U
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HomeWork 12
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AutoRunPEP8.bat
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hello.py
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Homework 03.pdf
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HW02_Sanam_Jena_10454295...
HW02_Sanam_Jena_10454295...
HW03_Sanam_Jena_10454295...
HW03_Sanam_Jena_test.py
HW03_Sanam_Jena.py
HW3_Screenshot_1.png
HW3_Screenshot_2.png
HW3_Screenshot_3.png
HW3_Screenshot_4.png
HW04_Sanam_Jena_10454295...
OUTLINE
TIMELINE
NPM SCRIPTS
JAVA PROJECTS
MAVEN
question12.py
question10.py
question13.py
Final Exam > question10.py > main
"""
Date: 06 December 2020
Author: Sanam Sritam Jena
"""
def my_range(start: int, limit: int, increment: int = 1) -> int:
"""
my range generates numbers in between start and limit taking increment into consideration
"""
i = start
while i < limit:
yield i
i += increment
def main() -> None:
print(list(my_range(2, 10, 2)))
if __name__ == '__main__':
main()
TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE
2: Python
1
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PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question13.py"
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[3, 5]
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[2, 4, 6, 8]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>
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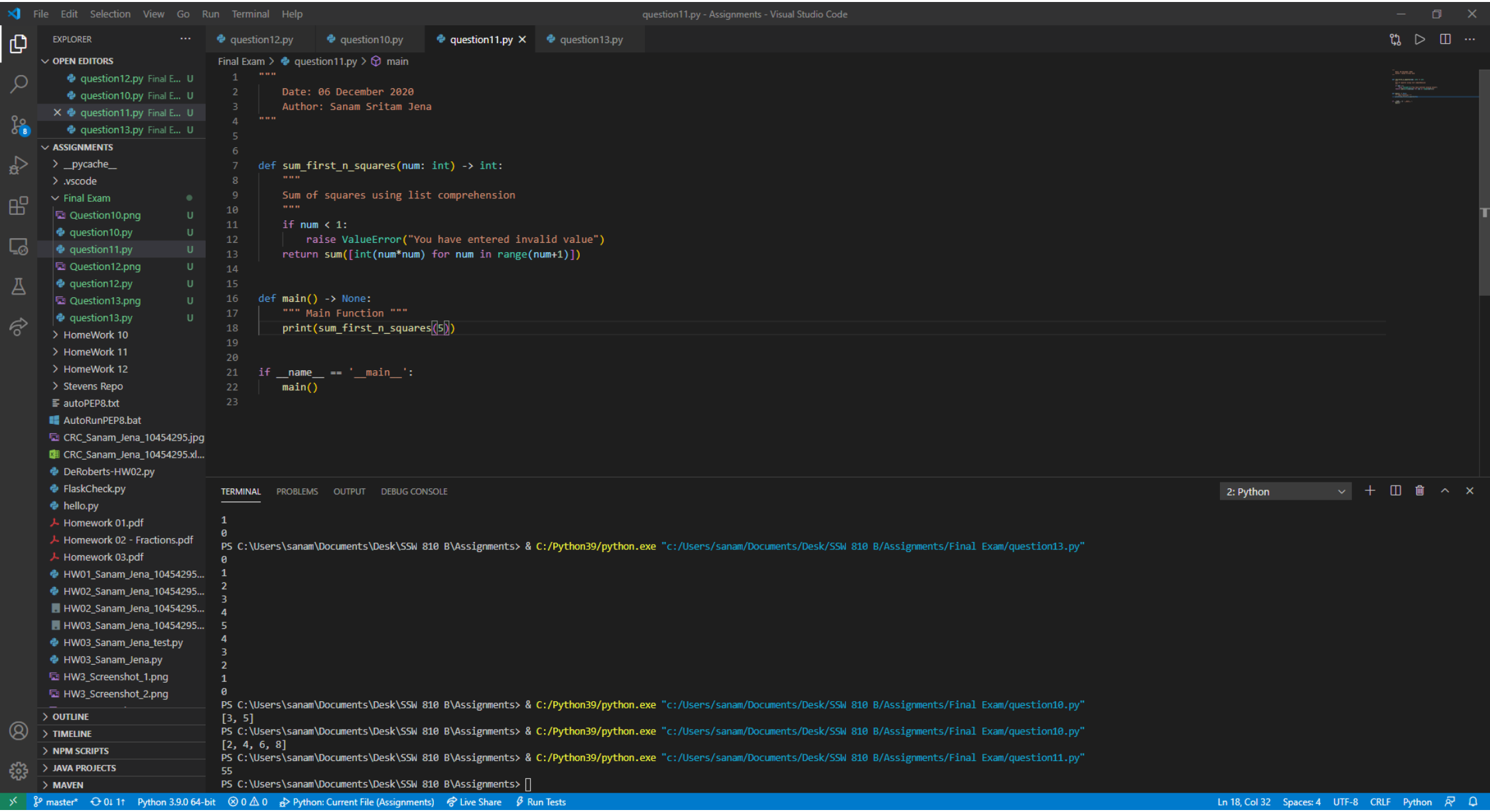
Ln 19, Col 1 Spaces: 4 UTF-8 CRLF Python

Question 11


File Edit Selection View Go Run Terminal Help
question11.py - Assignments - Visual Studio Code
EXPLORER
OPEN EDITORS
question12.py Final E... U
question10.py Final E... U
question11.py Final E... U
question13.py Final E... U
ASSIGNMENTS
__pycache__
.vscode
Final Exam
Question10.png U
question10.py U
question11.py U
Question12.png U
question12.py U
Question13.png U
question13.py U
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HomeWork 11
HomeWork 12
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AutoRunPEP8.bat
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HW02_Sanam_Jena_10454295...
HW02_Sanam_Jena_10454295...
HW03_Sanam_Jena_10454295...
HW03_Sanam_Jena_test.py
HW03_Sanam_Jena.py
HW3_Screenshot_1.png
HW3_Screenshot_2.png
OUTLINE
TIMELINE
NPM SCRIPTS
JAVA PROJECTS
MAVEN
question12.py
question10.py
question11.py
question13.py
Final Exam > question11.py > main
"""
Date: 06 December 2020
Author: Sanam Sritam Jena
"""
def sum_first_n_squares(num: int) -> int:
"""
Sum of squares using list comprehension
"""
if num < 1:
raise ValueError("You have entered invalid value")
return sum([int(num*num) for num in range(num+1)])
def main() -> None:
""" Main Function """
print(sum_first_n_squares(5))
if __name__ == '__main__':
main()
TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE
2: Python
1
0
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question13.py"
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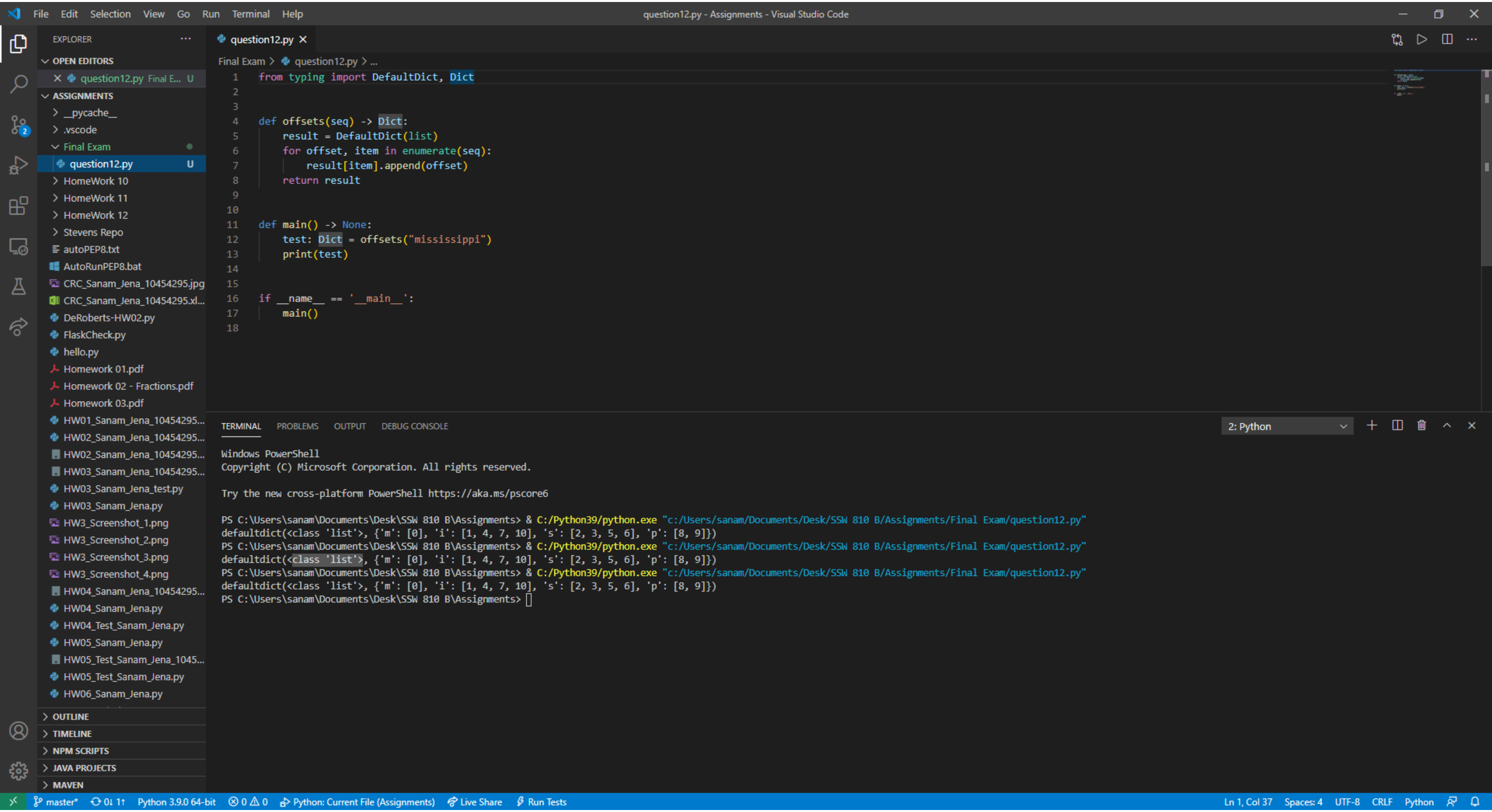
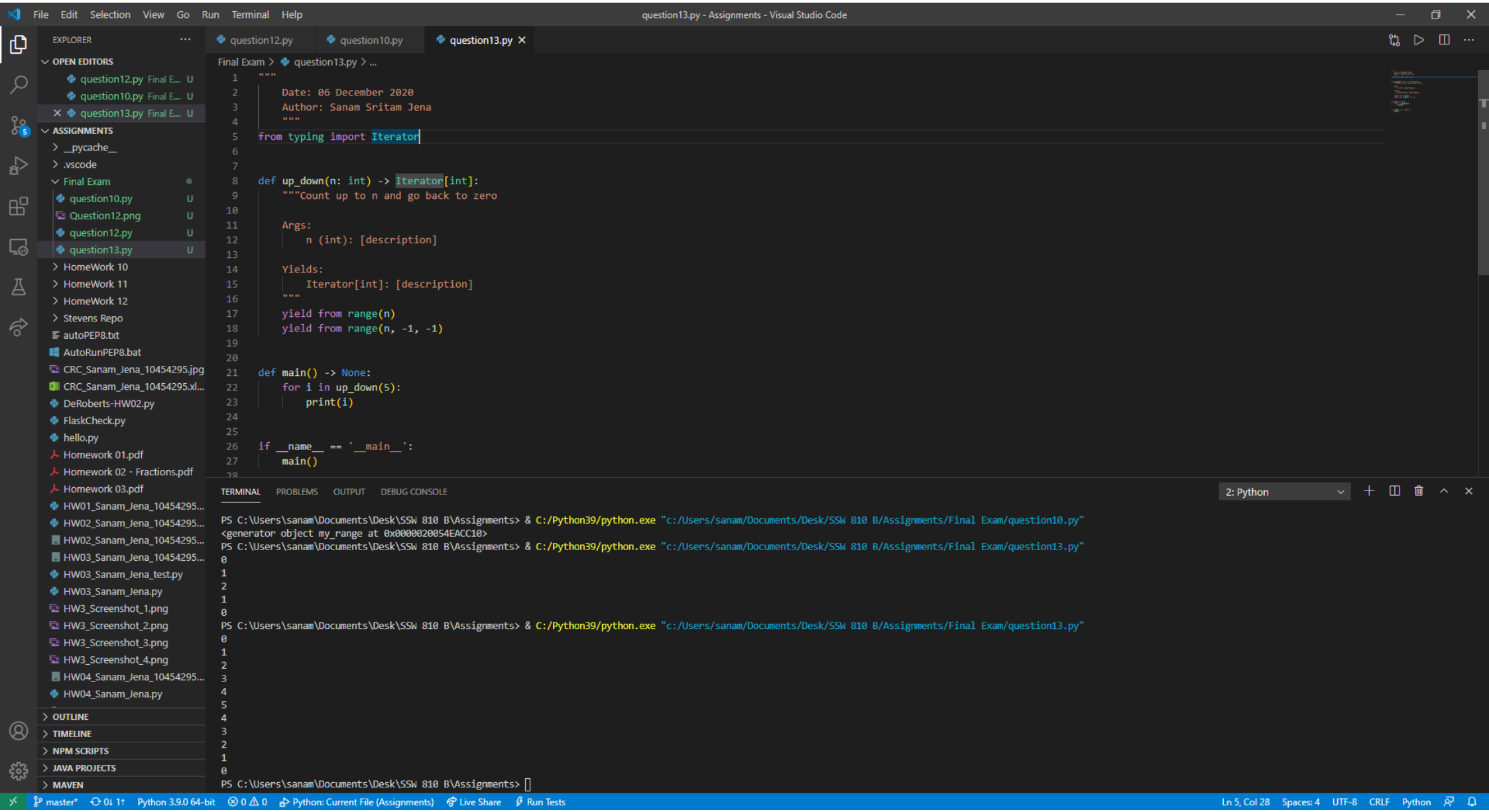
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
[3, 5]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
[2, 4, 6, 8]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question11.py"
55
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>
master* 0↓ 1↑ Python 3.9.0 64-bit 0 0 Python: Current File (Assignments) Live Share Run Tests
Ln 18, Col 32 Spaces: 4 UTF-8 CRLF Python

Question 12


question12.py - Assignments - Visual Studio Code
Final Exam > question12.py > ...
from typing import DefaultDict, Dict
def offsets(seq) -> Dict:
result = DefaultDict(list)
for offset, item in enumerate(seq):
result[item].append(offset)
return result
def main() -> None:
test: Dict = offsets("mississippi")
print(test)
if __name__ == '__main__':
main()
TERMINAL
PROBLEMS
OUTPUT
DEBUG CONSOLE
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question12.py"
defaultdict(<class 'list'>, {'m': [0], 'i': [1, 4, 7, 10], 's': [2, 3, 5, 6], 'p': [8, 9]})
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question12.py"
defaultdict(<class 'list'>, {'m': [0], 'i': [1, 4, 7, 10], 's': [2, 3, 5, 6], 'p': [8, 9]})
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question12.py"
defaultdict(<class 'list'>, {'m': [0], 'i': [1, 4, 7, 10], 's': [2, 3, 5, 6], 'p': [8, 9]})
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>

Question 13


File Edit Selection View Go Run Terminal Help
question13.py - Assignments - Visual Studio Code
EXPLORER
OPEN EDITORS
question12.py Final E... U
question10.py Final E... U
question13.py Final E... U
ASSIGNMENTS
__pycache__
.vscode
Final Exam
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Question12.png U
question12.py U
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HomeWork 10
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HomeWork 12
Stevens Repo
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AutoRunPEP8.bat
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DeRoberts-HW02.py
FlaskCheck.py
hello.py
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HW02_Sanam_Jena_10454295...
HW02_Sanam_Jena_10454295...
HW03_Sanam_Jena_10454295...
HW03_Sanam_Jena_test.py
HW03_Sanam_Jena.py
HW3_Screenshot_1.png
HW3_Screenshot_2.png
HW3_Screenshot_3.png
HW3_Screenshot_4.png
HW04_Sanam_Jena_10454295...
HW04_Sanam_Jena.py
OUTLINE
TIMELINE
NPM SCRIPTS
JAVA PROJECTS
MAVEN
question12.py
question10.py
question13.py
Final Exam > question13.py > ...
1 """
2 Date: 06 December 2020
3 Author: Sanam Sritam Jena
4 """
5 from typing import Iterator
6
7
8 def up_down(n: int) -> Iterator[int]:
9 """Count up to n and go back to zero
10
11 Args:
12 n (int): [description]
13
14 Yields:
15 Iterator[int]: [description]
16 """
17 yield from range(n)
18 yield from range(n, -1, -1)
19
20
21 def main() -> None:
22 for i in up_down(5):
23 print(i)
24
25
26 if __name__ == '__main__':
27 main()
TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE
2: Python
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question10.py"
<generator object my_range at 0x0000020054EACC10>
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question13.py"
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1
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PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question13.py"
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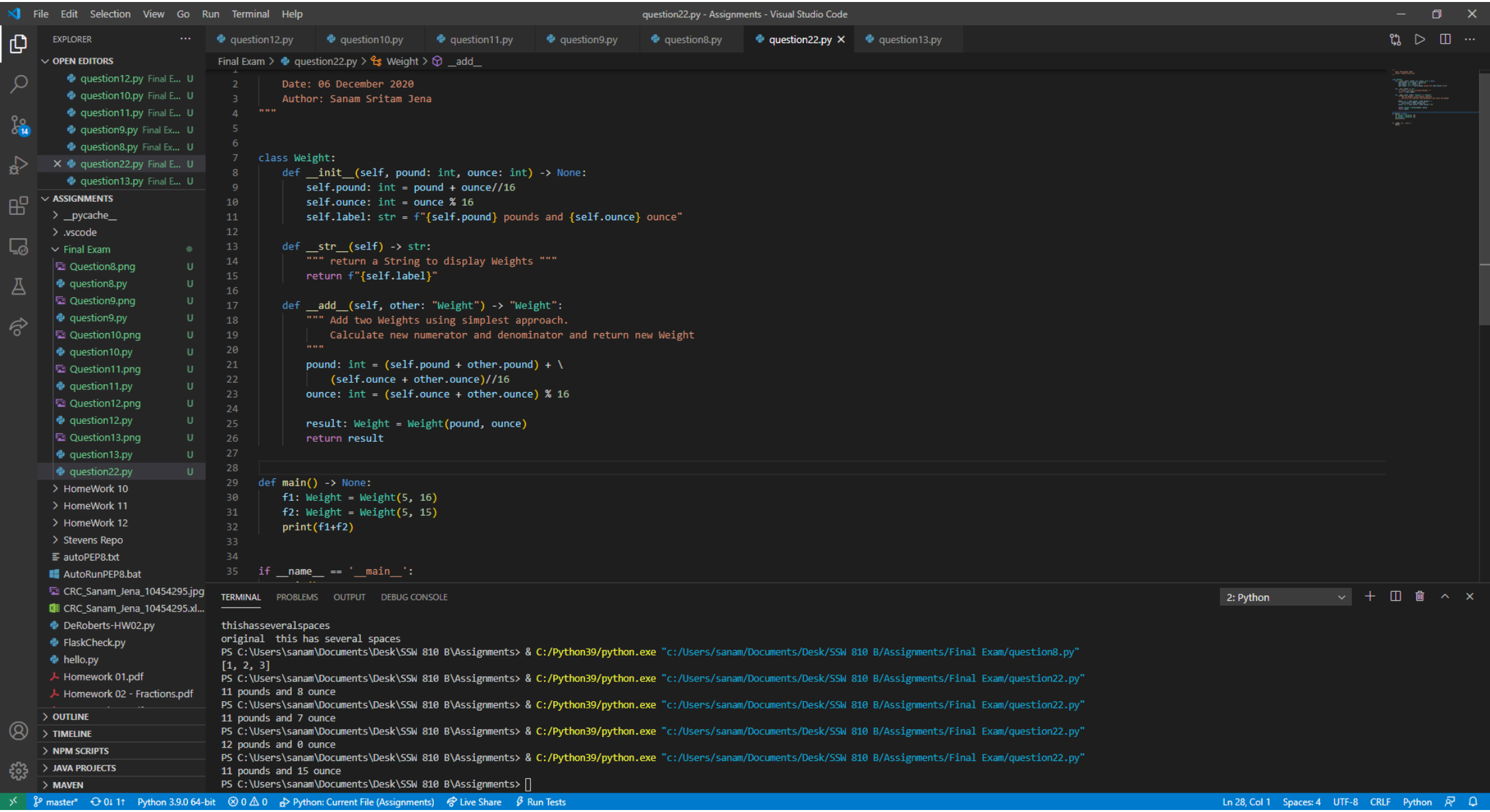
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>
master* 0↓ 1↑ Python 3.9.0 64-bit 0 0 Python: Current File (Assignments) Live Share Run Tests
Ln 5, Col 28 Spaces: 4 UTF-8 CRLF Python

Question 22


File Edit Selection View Go Run Terminal Help
question22.py - Assignments - Visual Studio Code
EXPLORER
OPEN EDITORS
question12.py Final E... U
question10.py Final E... U
question11.py Final E... U
question9.py Final Ex... U
question8.py Final Ex... U
question22.py Final E... U
question13.py Final E... U
ASSIGNMENTS
__pycache__
.vscode
Final Exam
Question8.png U
question8.py U
Question9.png U
question9.py U
Question10.png U
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Question11.png U
question11.py U
Question12.png U
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Question13.png U
question13.py U
question22.py U
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HomeWork 11
HomeWork 12
Stevens Repo
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AutoRunPEP8.bat
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DeRoberts-HW02.py
FlaskCheck.py
hello.py
Homework 01.pdf
Homework 02 - Fractions.pdf
OUTLINE
TIMELINE
NPM SCRIPTS
JAVA PROJECTS
MAVEN
question12.py question10.py question11.py question9.py question8.py question22.py question13.py
Final Exam > question22.py > Weight > __add__
Date: 06 December 2020
Author: Sanam Sritam Jena
"""
class Weight:
def __init__(self, pound: int, ounce: int) -> None:
self.pound: int = pound + ounce//16
self.ounce: int = ounce % 16
self.label: str = f"{self.pound} pounds and {self.ounce} ounce"
def __str__(self) -> str:
""" return a String to display Weights """
return f"{self.label}"
def __add__(self, other: "Weight") -> "Weight":
""" Add two Weights using simplest approach.
Calculate new numerator and denominator and return new Weight
"""
pound: int = (self.pound + other.pound) + \
(self.ounce + other.ounce)//16
ounce: int = (self.ounce + other.ounce) % 16
result: Weight = Weight(pound, ounce)
return result
def main() -> None:
f1: Weight = Weight(5, 16)
f2: Weight = Weight(5, 15)
print(f1+f2)
if __name__ == '__main__':
TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE
2: Python
thishasseveralspaces
original this has several spaces
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question8.py"
[1, 2, 3]
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question22.py"
11 pounds and 8 ounce
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question22.py"
11 pounds and 7 ounce
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question22.py"
12 pounds and 0 ounce
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments> & C:/Python39/python.exe "c:/Users/sanam/Documents/Desk/SSW 810 B/Assignments/Final Exam/question22.py"
11 pounds and 15 ounce
PS C:\Users\sanam\Documents\Desk\SSW 810 B\Assignments>
master* 0↓ 1↑ Python 3.9.0 64-bit 0 0 Python: Current File (Assignments) Live Share Run Tests
Ln 28, Col 1 Spaces: 4 UTF-8 CRLF Python