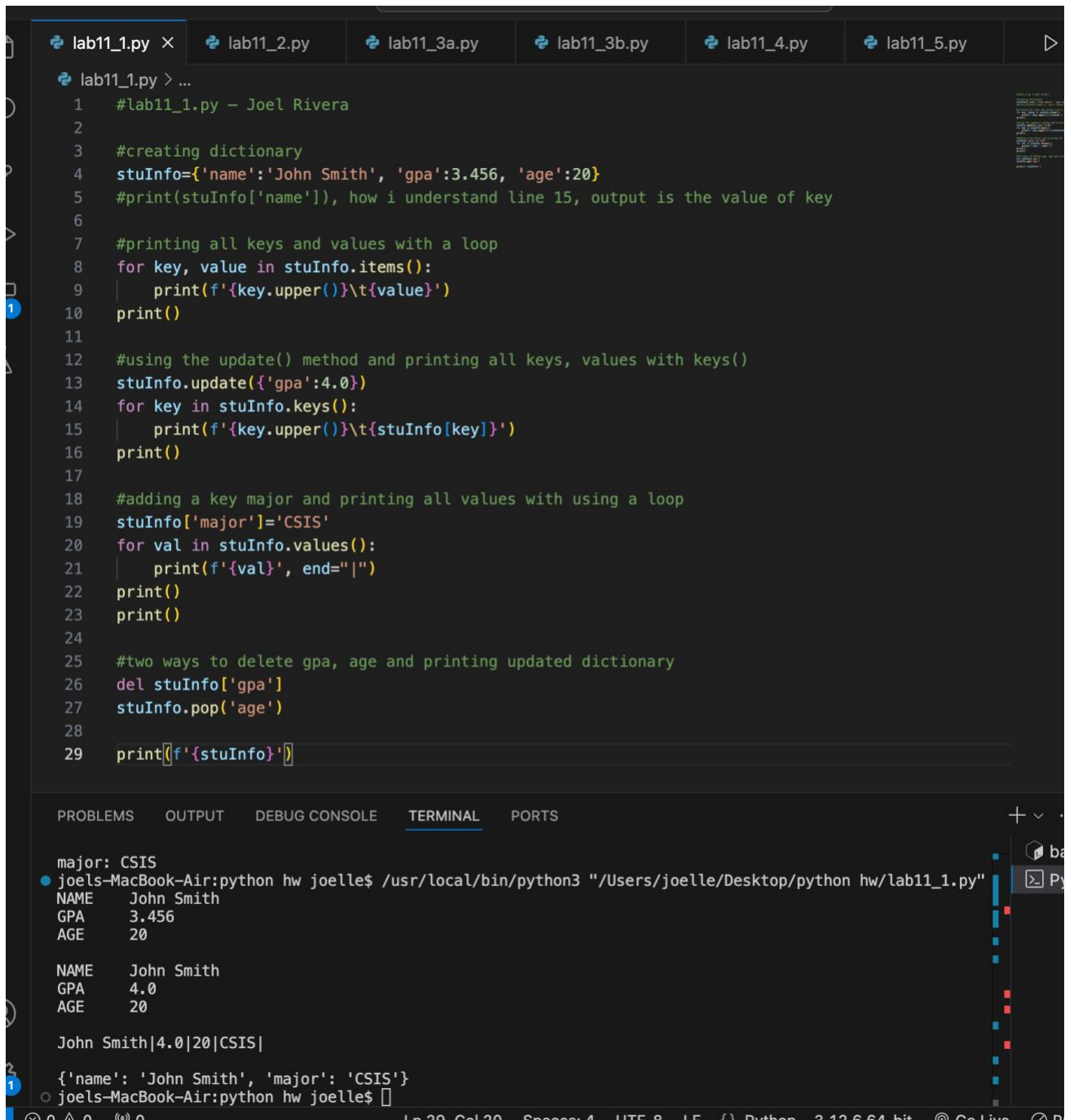


Joel Rivera

Et-574 F2F4L

Lab 11

11/26/24



The image shows a code editor with a dark theme. At the top, there are tabs for lab11_1.py through lab11_5.py. The active tab is lab11_1.py, which contains a Python script. The script defines a dictionary 'stuInfo' with keys 'name', 'gpa', and 'age'. It then performs several operations: printing the dictionary items, updating the 'gpa' to 4.0, adding a 'major' key with the value 'CSIS', and deleting the 'gpa' and 'age' keys. Finally, it prints the updated dictionary. Below the code editor is a terminal window showing the output of the script. The output displays the dictionary structure and the updated values.

```
lab11_1.py > ...
1  #lab11_1.py - Joel Rivera
2
3  #creating dictionary
4  stuInfo={'name':'John Smith', 'gpa':3.456, 'age':20}
5  #print(stuInfo['name']), how i understand line 15, output is the value of key
6
7  #printing all keys and values with a loop
8  for key, value in stuInfo.items():
9      print(f'{key.upper()}\t{value}')
10 print()
11
12 #using the update() method and printing all keys, values with keys()
13 stuInfo.update({'gpa':4.0})
14 for key in stuInfo.keys():
15     print(f'{key.upper()}\t{stuInfo[key]}')
16 print()
17
18 #adding a key major and printing all values with using a loop
19 stuInfo['major']='CSIS'
20 for val in stuInfo.values():
21     print(f'{val}', end="|")
22 print()
23 print()
24
25 #two ways to delete gpa, age and printing updated dictionary
26 del stuInfo['gpa']
27 stuInfo.pop('age')
28
29 print(f'{stuInfo}')
```

major: CSIS
NAME John Smith
GPA 3.456
AGE 20

NAME John Smith
GPA 4.0
AGE 20

John Smith|4.0|20|CSIS|
{'name': 'John Smith', 'major': 'CSIS'}
joels-MacBook-Air:python hw joelle\$

python hw

lab11_1.py lab11_2.py × lab11_3a.py lab11_3b.py lab11_4.py lab11_5.py

lab11_2.py > ...
1 #lab11_2.py - Joel Rivera
2
3 #creating a dictionary
4 rank = {1:"Freshman", 2:"Sophmore", 3:"Junior", 4:"Senior"}
5
6 #prompting input and printing the value of matching key
7 '''
8 try:
9 year=int(input('Enter the # of years in the school <1-4>: '))
10 if 1<=year<=4:
11 print(f'Year {year} = {rank[year]}')
12 else:
13 print(f'Invalid years.')
14 except:
15 print(f'Invalid input.')
16 '''
17 #trying a different way
18 try:
19 year=int(input('Enter the # of years in the school <1-4>: '))
20 print(f'Year {year} = {rank[year]}')
21 except (ValueError, KeyError):
22 print(f'Invalid years.')

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

- joels-MacBook-Air:python hw joelle\$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab11_2.py"
Enter the # of years in the school <1-4>: 1
Year 1 = Freshman
- joels-MacBook-Air:python hw joelle\$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab11_2.py"
Enter the # of years in the school <1-4>: 11
Invalid years.
- joels-MacBook-Air:python hw joelle\$

```
lab11_1.py lab11_2.py lab11_3a.py x lab11_3b.py lab11_4.py lab11_5.py ▶ ▼

lab11_3a.py > ...
1 #lab11_3a.py - Joel Rivera
2
3 #using a for loop to append letters to an empty list
4 alphabet=[]
5 for letter in range(ord('a'), ord('z')+1):
6     letters=chr(letter)
7     alphabet.append(letters)
8
9 #using list comprehension to create a list with 26 numbers
10 num=[i for i in range(1,27)]
11
12 #creating a merged dictionary
13 charNum=dict(zip(alphabet,num))
14
15 #using a for loop to print keys and values using keys()
16 for key in charNum.keys():
17     print(f'{key} {charNum[key]}', end='|')
18 print()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + - □ □ ...

```
● joels-MacBook-Air:python hw joelle$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab11_3a.py"
a |b 2|c 3|d 4|e 5|f 6|g 7|h 8|i 9|j 10|k 11|l 12|m 13|n 14|o 15|p 16|q 17|r 18|s 19|t 20|u 21|v 22|w 23|x 24|y 25|z 26|
○ joels-MacBook-Air:python hw joelle$
```

```
lab11_1.py lab11_2.py lab11_3a.py lab11_3b.py x lab11_4.py lab11_5.py ▶ ▼

lab11_3b.py > ...
1 #lab11_3b.py - Joel Rivera
2
3 #using list comprehension to create a list of letters
4 alphabetTwo= [chr(a) for a in range(ord('a'), ord('z')+1)]
5
6 #using list comprehension to create a list of numbers
7 numTwo= [i for i in range(100, 2601, 100)]
8
9 #creating a dictionary of the merged lists
10 numChar= dict(zip(numTwo, alphabetTwo))
11
12 #using a for loop to print keys and values using items()
13 for key, value in numChar.items():
14     print(f'{key} {value.upper()}', end='|')
15 print()
16
17 #using a for loop to append letters to an empty list
18 alphabet=[]
19 for letter in range(ord('a'), ord('z')+1):
20     letters=chr(letter)
21     alphabet.append(letters)
22
23 #using list comprehension to create a list with 26 numbers
24 num=[i for i in range(1,27)]
25
26 #creating a merged dictionary
27 charNum=dict(zip(alphabet,num))
28
29 #merging both dictionaries into one
30 all= (**charNum, **numChar)
31 print(f'{all}')
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + - □ □ ...

```
● joels-MacBook-Air:python hw joelle$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab11_3b.py"
100 A|200 B|300 C|400 D|500 E|600 F|700 G|800 H|900 I|1000 J|1100 K|1200 L|1300 M|1400 N|1500 O|1600 P|1700 Q|1800 R|1900 S|2000 T|2100 U|2200 V|2300 W|2400 X|2500 Y|2600 Z|
{'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5, 'f': 6, 'g': 7, 'h': 8, 'i': 9, 'j': 10, 'k': 11, 'l': 12, 'm': 13, 'n': 14, 'o': 15, 'p': 16, 'q': 17, 'r': 18, 's': 19, 't': 20, 'u': 21, 'v': 22, 'w': 23, 'x': 24, 'y': 25, 'z': 26, 100: 'a', 200: 'b', 300: 'c', 400: 'd', 500: 'e', 600: 'f', 700: 'g', 800: 'h', 900: 'i', 1000: 'j', 1100: 'k', 1200: 'l', 1300: 'm', 1400: 'n', 1500: 'o', 1600: 'p', 1700: 'q', 1800: 'r', 1900: 's', 2000: 't', 2100: 'u', 2200: 'v', 2300: 'w', 2400: 'x', 2500: 'y', 2600: 'z'}
○ joels-MacBook-Air:python hw joelle$
```

lab11_1.py lab11_2.py lab11_3a.py lab11_3b.py lab11_4.py x lab11_5.py

lab11_4.py > ...
1 #lab11_4.py - Joel Rivera
2
3 #create 3 dictionaries
4 stuInfo1={'name':'tom cat', 'gpa':3.456}
5 stuInfo2={'name':'jerry mouse', 'gpa':4.0}
6 stuInfo3={'name':'sponge bob', 'gpa':3.99}
7
8
9 #Create a list and add all dictionaries
10 stuClass=[stuInfo1, stuInfo2, stuInfo3]
11 print(f'All students in the list:\n{stuClass}')
12 print()
13
14 #Use a loop to print all students list
15 print(f'All students information:')
16 count = 1
17 for student in stuClass:
18 print(f'Student {count} {student}')
19 count +=1
20 print()
21
22 #use a loop to print all gpa
23 print(f'All gpa information:')
24 for student in stuClass:
25 print(f'{student['gpa']}', end='|')
26 print()
27 print()
28
29 #Changing the last student's gpa to 4.0, adding a new student info to the list.
30 stuInfo3['gpa']=4.0
31 stuInfo4={'name':'john smith', 'gpa':3.99}
32 stuClass.append(stuInfo4)
33
34 #Use a loop to print all names and gpa, using string formatting to line up output
35 print(f'All the updated information:')
36 for student in stuClass:
37 print(f"{student['name'].title():<20}{student['gpa']:>1.2f}")

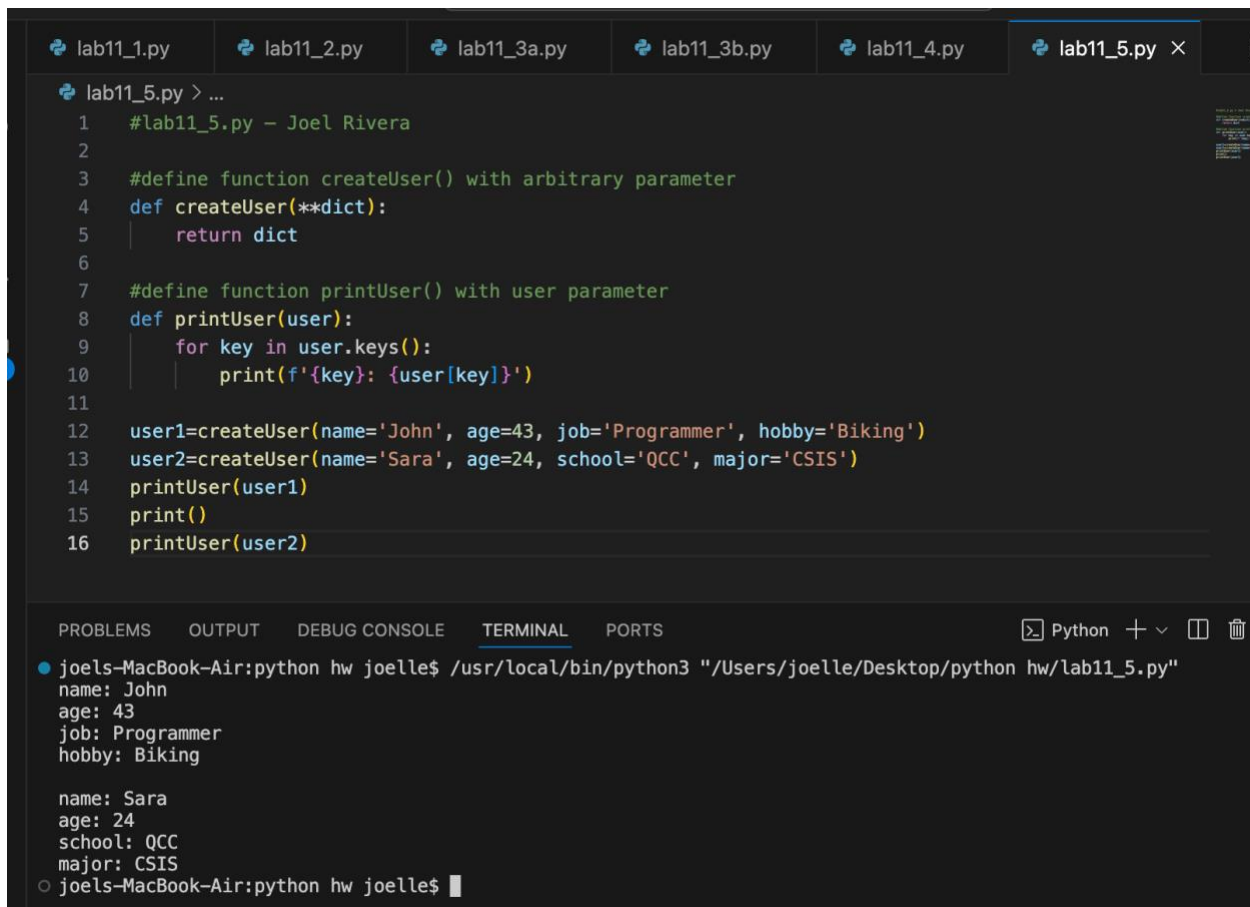
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + - [] ... ^

John Smith 3.99
joels-MacBook-Air:python hw joelle\$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab11_4.py"
All students in the list:
[{'name': 'tom cat', 'gpa': 3.456}, {'name': 'jerry mouse', 'gpa': 4.0}, {'name': 'sponge bob', 'gpa': 3.99}]

All students information:
Student 1 {'name': 'tom cat', 'gpa': 3.456}
Student 2 {'name': 'jerry mouse', 'gpa': 4.0}
Student 3 {'name': 'sponge bob', 'gpa': 3.99}

All gpa information:
3.456|4.0|3.99|

All the updated information:
Tom Cat 3.46
Jerry Mouse 4.00
Sponge Bob 4.00
John Smith 3.99
joels-MacBook-Air:python hw joelle\$



The screenshot shows a code editor with several tabs at the top: lab11_1.py, lab11_2.py, lab11_3a.py, lab11_3b.py, lab11_4.py, and lab11_5.py. The active tab is lab11_5.py, which contains the following Python code:

```
1 #lab11_5.py - Joel Rivera
2
3 #define function createUser() with arbitrary parameter
4 def createUser(**dict):
5     return dict
6
7 #define function printUser() with user parameter
8 def printUser(user):
9     for key in user.keys():
10         print(f'{key}: {user[key]}')
11
12 user1=createUser(name='John', age=43, job='Programmer', hobby='Biking')
13 user2=createUser(name='Sara', age=24, school='QCC', major='CSIS')
14 printUser(user1)
15 print()
16 printUser(user2)
```

Below the code editor is a terminal window with the following output:

```
joels-MacBook-Air:python hw joelle$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab11_5.py"
name: John
age: 43
job: Programmer
hobby: Biking

name: Sara
age: 24
school: QCC
major: CSIS
joels-MacBook-Air:python hw joelle$
```

6. I ran into two challenges while working on this week's lab, the first came from the first question. In line 15, I having trouble figuring out a way to get the value to appear in the output while using the keys() method. After reviewing the PowerPoint I saw that I could write something like stuInfo[key] to access the correct value associated with the key. The second issue came from the last problem in line 14 and 16. I first had tried to use a f-string in my print statement to print the dictionaries, but I kept getting an error. After looking at stack overflow, I read something about how f-string converts whatever is passed inside into string literals and that's why I was getting an error. After passing my dictionaries directly into my print statements, I got the desired output.