Deborah Barndt

ITMD 513 Open Source Programming

Professor Dr. Sam

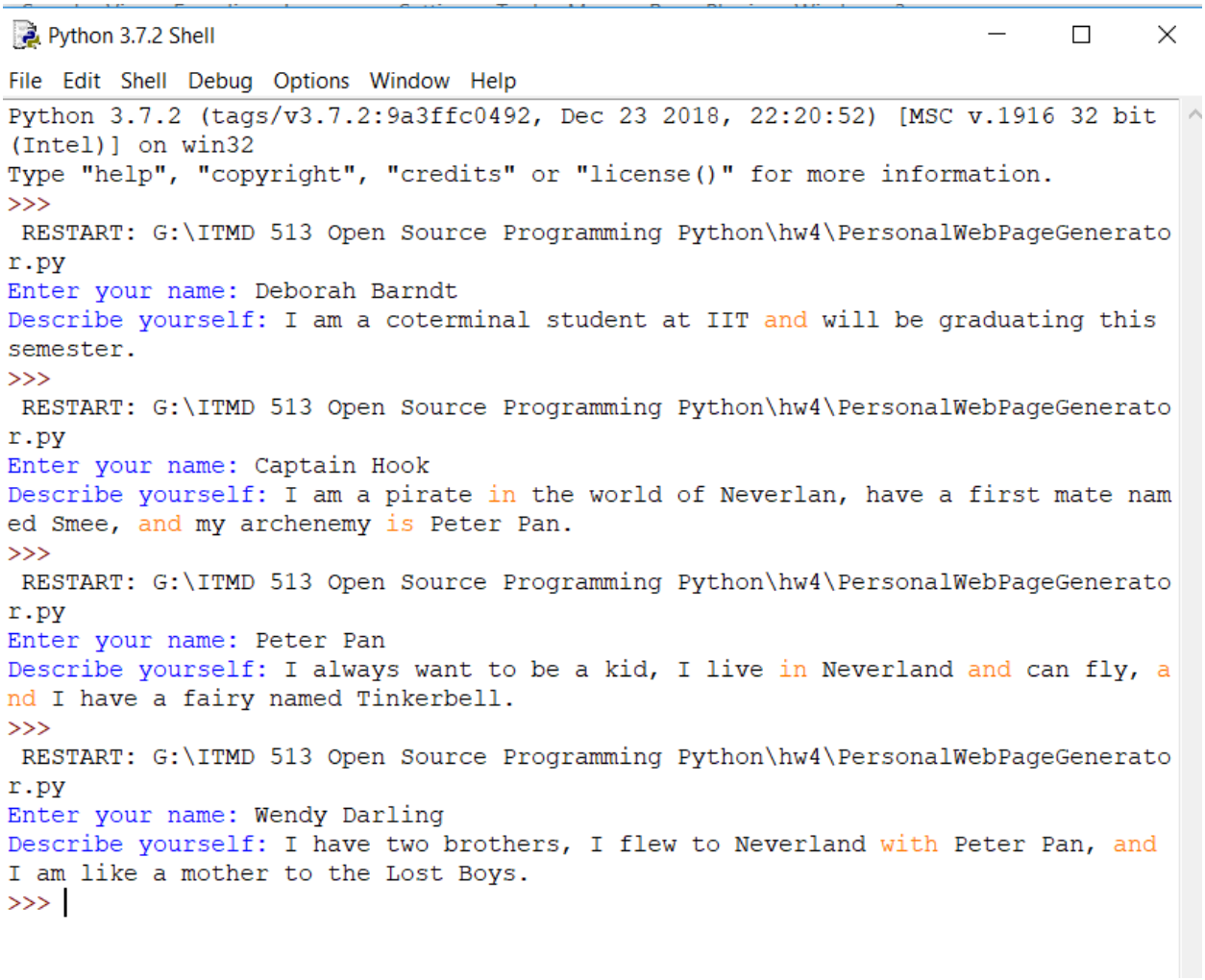
Hw4

2-15-19

```
1  Question #1: Personal Web Page Generator
2
3  '''
4  Deborah Barndt
5  2-15-19
6  PersonalWebPageGenerator.py
7  hw4: Question 1 Personal Web Page Generator
8
9  This program will ask the user for his or her name, then ask the user to enter
10 a sentence that describes himself or herself. Once the user has entered the
11 requested input, the program should create an HTML file, containing the input,
12 for a simple web page.
13
14 Written by Deborah Barndt.
15 '''
16
17 # Ask the user for his or her name.
18 username = input('Enter your name: ')
19
20 # Ask the user to enter a sentence that describes them.
21 userdesc = input('Describe yourself: ')
22
23 # Open the html file to write the html content
```

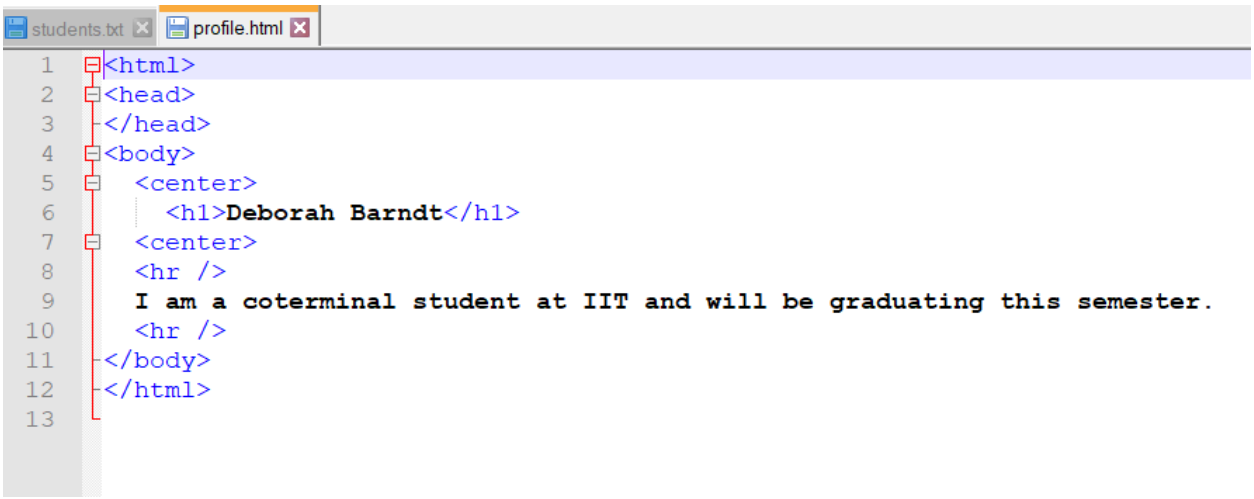
```
content = open('profile.html', 'w')

# Create the html file for the user profile.
html = '<html>\n' + \
    '<head>\n' + \
    '</head>\n' + \
    '<body>\n' + \
    '\t<center>\n' + \
    '\t\t<h1>' + username + '</h1>\n' + \
    '\t<center>\n' + \
    '\t<hr />\n' + \
    '\t' + userdesc + '\n' + \
    '\t<hr />\n' + \
    '</body>\n' + \
    '</html>\n'

# Write the html into the file for the user profile.
content.write(html)

# Close the file with the html content.
content.close()
```

Output Results:


Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: G:\ITMD 513 Open Source Programming Python\hw4\PersonalWebPageGenerator.py
Enter your name: Deborah Barndt
Describe yourself: I am a coterminal student at IIT and will be graduating this semester.
>>>
RESTART: G:\ITMD 513 Open Source Programming Python\hw4\PersonalWebPageGenerator.py
Enter your name: Captain Hook
Describe yourself: I am a pirate in the world of Neverlan, have a first mate named Smee, and my archenemy is Peter Pan.
>>>
RESTART: G:\ITMD 513 Open Source Programming Python\hw4\PersonalWebPageGenerator.py
Enter your name: Peter Pan
Describe yourself: I always want to be a kid, I live in Neverland and can fly, and I have a fairy named Tinkerbell.
>>>
RESTART: G:\ITMD 513 Open Source Programming Python\hw4\PersonalWebPageGenerator.py
Enter your name: Wendy Darling
Describe yourself: I have two brothers, I flew to Neverland with Peter Pan, and I am like a mother to the Lost Boys.
>>>

46

47


students.txt
profile.html
<html>
<head>
</head>
<body>

<h1>Deborah Barndt</h1>

<hr />
I am a coterminal student at IIT and will be graduating this semester.
<hr />
</body>
</html>

48

Deborah Barndt

I am a coterminal student at IIT and will be graduating this semester.

49

students.txt | profile.html

```
<html>
<head>
</head>
<body>
  <center>
    <h1>Captain Hook</h1>
  <center>
  <hr />
  I am a pirate in the world of Neverlan, have a first mate named Smee, and my archenemy is Peter Pan.
  <hr />
</body>
</html>
```

50

Captain Hook

I am a pirate in the world of Neverlan, have a first mate named Smee, and my archenemy is Peter Pan.

51

students.txt | profile.html

```
<html>
<head>
</head>
<body>
  <center>
    <h1>Peter Pan</h1>
  <center>
  <hr />
  I always want to be a kid, I live in Neverland and can fly, and I have a fairy named Tinkerbell.
  <hr />
</body>
</html>
```

52

Peter Pan

I always want to be a kid, I live in Neverland and can fly, and I have a fairy named Tinkerbell.

53

students.txt profile.html

```
<html>
<head>
</head>
<body>
  <center>
    <h1>Wendy Darling</h1>
  <center>
  <hr />
  I have two brothers, I flew to Neverland with Peter Pan, and I am like a mother to the Lost Boys.
  <hr />
</body>
</html>
```

54

Wendy Darling

I have two brothers, I flew to Neverland with Peter Pan, and I am like a mother to the Lost Boys.

55

56 Question #2

57

58 '''

59 Deborah Barndt

60 2-15-19

61 StudentGradeReports.py

62 hw4: Question 2 Student Grade Reports

63

64 This program will create student grade reports, and save the report in a file

65 separate filename. The grade report for each student will contain the student's

```
66  name and ID number, a list of courses taken, the credits and grade for each
67  course, and a semester grade point average (GPA).
68
69  Written by Deborah Barndt.
70  '''
71
72  # Function that returns the number value of the letter grade.
73  def studentGrade(courseGrade):
74      # Get the number value from the course grade.
75      if (courseGrade == 'A'):
76          grade = 4
77      elif (courseGrade == 'B'):
78          grade = 3
79      elif (courseGrade == 'C'):
80          grade = 2
81      elif (courseGrade == 'D'):
82          grade = 1
83      else:
84          grade = 0
85      return grade
86
87  # Function the writes the total number of semester course credits and the semester gpa.
88  def studentGPA(gpa, totalcredits, outputData):
89      outputData.write('\n')
90      outputData.write('Total Semester Course Credits Completed: ' + str(totalcredits) + '\n')
91      outputData.write('Semester GPA: ' + "%.2f" % gpa + '\n\n\n')
92
93  # Function to write the student reports from the data.
94  def main():
```

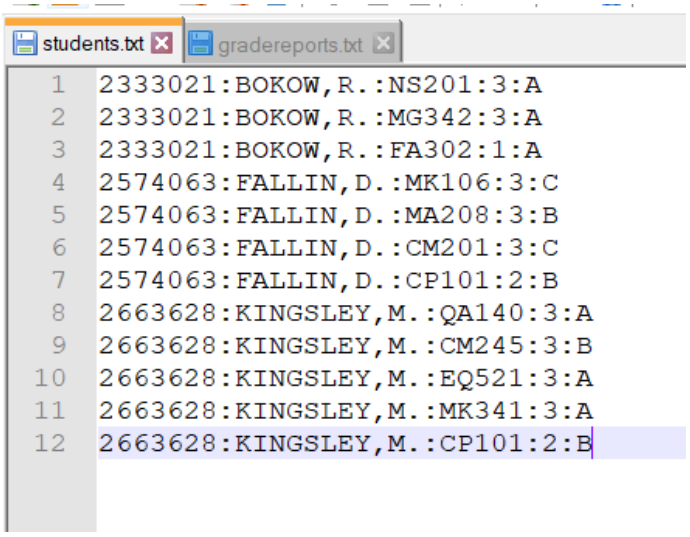
```
95      studentid = 0
96      previd = 0
97      grade = 0
98      totalcredits = 0
99      gpa = 0
100     studentname = ' '
101     courseGrade = ' '
102     credit = 0
103     courseCredit = ' '
104     code = ' '
105     numstudent = 0
106
107     # Open the data file students.txt as an input file.
108     inputData = open('students.txt', 'r')
109
110     # Create the report as gradereport.txt for the output file.
111     outputData = open('gradereports.txt', 'w')
112
113     # Read lines from students.txt file.
114     for line in inputData:
115         # Split the data elements using : as a separator.
116         line = line.split(':')
117
118         # Read studentID from students.txt file.
119         studentid = int(line[0])
120
121         if (studentid != previd):
122             # Count the number of students in the students.txt file.
123             numstudent += 1
```

```
124             previd = studentid
125             studentname = line[1]
126
127             # Check if the student is the same, if not calculate the gpa for student.
128             if (numstudent > 1):
129                 # Calculate the gpa to gradereports.txt file.
130                 gpa = gpa / totalcredits
131
132                 # Write the student gpa and semester credits at end of student report.
133                 studentGPA(gpa, totalcredits, outputData)
134
135                 # Reset the variables for the gpa and the total number of credits.
136                 gpa = 0
137                 totalcredits = 0
138
139             # Get the course credits from the students.txt and count the total credits.
140             courseCredit = int(line[3])
141             totalcredits += courseCredit
142
143             # Get the course grade from students.txt and calculate the grades.
144             courseGrade = line[4].strip()
145             grade = studentGrade(courseGrade)
146
147             # Calculate the student gpa for the semester.
148             gpa += grade * courseCredit
149             code = line[2]
150
151             # Write the name and ID number for each student and data headers to reports.
152             outputData.write('Student Name: ' + studentname + '\n')
```

```
153             outputData.write('Student ID Number: ' + str(studentid) + '\n\n')
154             outputData.write('Course Code\t\t\tCourse Credits\t\t\tCourse Grade\n')
155             outputData.write('_____\n')
156
157             # Write the course code, course credits, and course grade for each student in the report.
158             outputData.write(code + '\t\t\t\t\t\t\t\t\t' + str(courseCredit) + '\t\t\t\t\t\t\t\t\t\t' + courseGrade
159     + '\n')
160
161         elif (studentid == previd):
162             # Get the course credits from the students.txt and count the total credits.
163             courseCredit = int(line[3])
164             totalcredits += courseCredit
165
166             # Get the course grade from students.txt and calculate the grades.
167             courseGrade = line[4].strip()
168             grade = studentGrade(courseGrade)
169
170             # Calculate the student gpa for the semester.
171             gpa += grade * courseCredit
172             code = line[2]
173
174             # Write the course code, course credits, and course grade for each student in the report.
175             outputData.write(code + '\t\t\t\t\t\t\t\t\t' + str(courseCredit) + '\t\t\t\t\t\t\t\t\t\t' + courseGrade
176     + '\n')
177
178     # Calculate and write the student gpa for the last student in the students.txt file.
179     gpa = gpa / totalcredits
180
181     # Write the total number of semester credits and student gpa at the end of the report.
```

```
182         studentGPA(gpa, totalcredits, outputData)
183
184         # Close the student.txt and gradereports.txt file.
185         inputData.close()
186         outputData.close()
187         print('Student reports written to gradereports.txt file.')
188
189
190 main()
```

191 Output Results:



192

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
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>>>
 RESTART: G:\ITMD 513 Open Source Programming Python\hw4\StudentGradeReports.py
Student reports written to gradereports.txt file.
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Student reports written to gradereports.txt file.
>>>
 RESTART: G:\ITMD 513 Open Source Programming Python\hw4\StudentGradeReports.py
Student reports written to gradereports.txt file.
>>>
```

193

students.txt | gradereports.txt

```
Student Name: BOKOW,R.
Student ID Number: 2333021

Course Code     Course Credits      Course Grade
____________________________________________________
NS201                 3                   A
MG342                 3                   A
FA302                 1                   A

Total Semester Course Credits Completed: 7
Semester GPA: 4.00


Student Name: FALLIN,D.
Student ID Number: 2574063

Course Code     Course Credits      Course Grade
____________________________________________________
MK106                 3                   C
MA208                 3                   B
CM201                 3                   C
CP101                 2                   B

Total Semester Course Credits Completed: 11
Semester GPA: 2.45


Student Name: KINGSLEY,M.
Student ID Number: 2663628

Course Code     Course Credits      Course Grade
____________________________________________________
QA140                 3                   A
CM245                 3                   B
EQ521                 3                   A
MK341                 3                   A
CP101                 2                   B

Total Semester Course Credits Completed: 14
Semester GPA: 3.64

```

194