Problem Solving 1

Assume that you have a CSV file in the format shown below (were # indicates a grade item). Note that the student's name is a single, quoted field.

```
"Last, First",Section,#,#,#,#,#,...
```

Write a function that, given a filename, a section number, and a grade item will print the class average on the grade item for just that section.

```
>>> section_avg("grades.csv", 4, 12)
Section Average: 83.76
>>> _
```

```python
import csv


def section_average(filename, section_number, grade_item):
    score = 0
    students = 0
    with open(filename) as csvfile:
        reader = csv.reader(csvfile):
            if row[3] == section_number:
                score += float(row[4+int(grade_item)])
                students += 1
    average = score / students
    print("Section Average: ", average)


def main():
    section_average("grades.csv", 4, 12)


main()
```

1

```
import csv


def name_and_address(filename):

        with open(filename') as csv_file:

                csv_reader = csv.reader(csv_file)

                next(csv_reader)

                for record in csv_reader:

                        print(record[0], record[1])


def main():

        name_and_adress("cityofrochester.csv")


main()
```

Problem Solving 2

Rewrite the code below so that it uses Python csv module to process the data.

```
1    def name_and_address(filename):
2      with open(filename) as csv_file:
3        next(csv_file)
4        for line in csv_file:
5          record = line.split()
6          print(record[0], record[1])
```

Problem Solving 3

Consider the example names in the list below. Work with your team to come up with regular expressions to match the descriptions on the right.

"Tsiatsos, III, Shamella" = 1
"Myrman, Carlyne" = 2
"Standeven, Markeith" = 3
"Adan, IV, Marciano" = 4
"Pelphrey, Ruven" = 5
"Schneiderman, Trenee" = 6
"Hick, Kateland" = 7
"Blackie, II, Percival" = 8
"Stueber, Jazzman" = 9
"Vanderberg, Ileana" = 10

Names containing a "t" or "T" anywhere in the name.

- **1, 3, 6, 7, and 9.**

Last names beginning with "S".

- **1.**

First or last names beginning with "P".

- **5 and 8.**

Match a given first and last name.

- **None.**

Names with any suffix (like "IV")

- **1, 4, and 8.**

```
import csv

def student_info(filename, last_name):
        with open(filename') as csv_file:
                csv_reader = csv.reader(csv_file)
                next(csv_reader)
                for row in csv_reader:
                        name, section, grades = row
                        last, first = name.split(",")
                        if last.lower() == last_name.lower():
                                print("Name: ", first and last, "Section: ", section)

def main():
        student_info("students.csv", Jamal)

main()
```

Problem Solving 4

Write a function that, given a filename and last name, prints the *full name* and section number of the matching student. Assume the file is in the same format that you used previously.

```
"Last, First",Section,#,#,#,#,#,...
```

4