PA2

PA2

CSE 8A Fall 2021 PA2

Due date: Tuesday, October 12 @ 11:59PM PST

(No late submission is allowed)

Provided Files

None

File(s) to Submit

- `is_late.py`
- `grade_prediction.py`
- `mystery.py`

Part 1: Implementation

`is_late.py`

`def is_late(minutes_late)`

Your task is to write a function taking in a numeric parameter `minutes_late` and return the boolean value `True` or `False` to determine whether a student is considered late or not for a lab. The condition is defined below. Implement your function in file `is_late.py` and make sure the function name is `is_late`.

- return `True` to indicate that a student is late if `minutes_late` >= 5
- return `False` otherwise

`grade_prediction.py`

`def grade_prediction(average_minutes_late, total_grade)`

Write a function `grade_prediction` in file `grade_prediction.py` to predict one's letter grade for CSE 8A given their lecture attendance and total_grade. Your function will take in two numeric parameters

(in this order), and return a string as the prediction. Use the conditions given below.

- return "no prediction" if `total_grade` is negative regardless of what value `average_minutes_late` is
- return "F" if the student did not attend classes (`average_minutes_late` >= 5 minutes for each lecture, you need to call the `is_late()` function you write. Hint: `from is_late import is_late`)
- return "F" if the student attended classes (`average_minutes_late is smaller than 5 minutes`) and `total_grade` is between 0 (inclusive) and 60 (exclusive)
- return "D" if attended classes and `total_grade` is between 60 (inclusive) and 70 (exclusive)
- return "C" if attended classes and `total_grade` is between 70 (inclusive) and 80 (exclusive)
- return "B" if attended classes and `total_grade` is between 80 (inclusive) and 90 (exclusive)
- return "A" if attended classes and `total_grade` is between 90 (inclusive) and 96 (exclusive)
- return "A+" if attended classes and `total_grade` is greater than or equal to 96

`mystery.py`

`def mystery(number)`

Write a function `mystery` in file `mystery.py` to make a connection between a number and some mysterious strings. Your function will take in a numeric parameter and return a string. Use the conditions given below.

- return "CSE" if number divisible by 3
- return "8A" if number divisible by 5
- return "Paul" if number divisible by 7
- return "CSE8A" if number divisible by 3 and 5
- return "Professor" if number divisible by 3 and 7
- return "Great" if number divisible by 5 and 7
- return "Paul is a great professor for CSE8A!" if number divisible by 3, 5 and 7
- return "" otherwise

Part 2: Concept Questions

You are required to complete the Concept Questions Quiz in the PA2 lesson. There is no time limit on the Quiz but you must submit the Quiz by the PA deadline. You can submit multiple times before the deadline. Your latest submission will be graded.

Submission

Turning in your code

Submit all of the following files to PA2 Lesson on EdStem via the “Mark" Button by **Tuesday,**

October 12 @ 11:59PM PST (No late submission is allowed):

- `is_late.py`
- `grade_prediction.py`
- `mystery.py`

Evaluation

- Correctness (80 points) You will earn points based on the autograder tests that your code passes. If the autograder tests are not able to run (e.g., your code does not compile or it does not match the specifications in this writeup), you may not earn credit.
- Conceptual Questions (20 points)

PA2 Conceptual Questions

Question 1 *Submitted Oct 7th 2021 at 10:29:40 am*

Which of the following are true about functions in general? Select all that apply.

- [ ] It makes your code looks interesting
- [x] It can be reused many times and make your code easier to understand
- [x] It can help contain potential errors and avoid copy-pasting in your program
- [x] Calling functions may take time so it is one of the shortcomings of using functions.

Question 2 *Submitted Oct 7th 2021 at 10:45:29 am*

For python functions, the return statement is pretty much the same as print statement.

- ( ) True
- (•) False

Question 3 *Submitted Oct 7th 2021 at 10:30:49 am*

Given the following function prototype, what is the correct terminology for num?

```
def mystery(num)
```

- ( ) function name
- (•) parameter
- ( ) argument

- [ ] return value

Question 4 *Submitted Oct 7th 2021 at 10:31:50 am*

What are true about the following codes (block 1 and block 2)? select all that apply.

```
#block 1
if condition A:
 #statements A
elif condition B:
 #statements B
elif condition C:
 #statements C
else:
 #statements D
```

```
#block 2
if condition A:
   #statements A
if condition B:
   #statements B
if condition C:
   #statements C
else:
   #statements D
```

- [ ] They are basically the same code, no difference
- [x] For block 1, it is impossible that statements A and D are both executed
- [x] For block 2, it is impossible that statements A and D are both executed
- [x] For block 1, it is possible that statements A and C are both executed
- [ ] For block 2, it is possible that statements B and C are both executed
- [x] For block 1, it is possible that statements C and D are both executed.
- [ ] For block 2, it is possible that statements C and D are both executed.

Question 5 *Submitted Oct 7th 2021 at 10:33:34 am*

elements in a list in python has their own indexes and the indexes start at 0.

- (●) True
- ( ) False