CECS 229 Sample Programming Assignment: Python Review

Due Date:

N/A

Objectives:

1. Review Python functions and classes.
2. Understand how to submit work to and read feedback given by, CodePost.

Directions

Complete the programming problems in the file named `sample.py`. You may test your implementation on your Repl.it workspace by running `main.py`. When you are satisfied with your implementation, download `sample.py` and submit it to the appropriate CodePost auto-grader folder. Please note that this assignment is for practice only and does not affect your grade.

Review on functions and classes are provided in the files `functions_review.md` and `classes_review.md` for your reference.

Problem 1:

Create a function `hello(subject)` that returns the string "Hello, (insert subject here)!" using the input subject.

INPUT: `subject` - a string representing the subject to include in the greeting

OUTPUT: the greeting as a string

In [ ]:
```
def hello(subject):
    # todo
    pass
```

Problem 2

Create a class named `Bug` with the following attributes and interface implementation:

- **Attributes:**
  - `name` – a string representing the name of this `Bug` object.
  - `position` – a list with two elements, representing the location of the Bug object on the xy-plane. The first element represents the x-coordinate, while the second element

represents the y-coordinate.

- **Interface:**
  - `__init__(self, name, position = [0, 0])` : constructor that initializes a Bug object with given name and position. If the position is not given, then the Bug's position is initialized at the origin.
  - `move_up(self, units)` : moves the position of this Bug object up by given number of units (int).
  - `move_down(self, units)` : moves the position of this Bug object down by given number of units (int).
  - `move_left(self, units)` : moves the position of this Bug object left by given number of units (int).
  - `move_right(self, units)` : moves the position of this Bug object right by given number of units (int).

In [ ]:

```
class Bug:
    def __init__(self, name, position = [0, 0]):
        # todo
        pass

  # todo: implement accessor and mutator methods
    def __str__(self):
        return f"Name: {self.name}\nPosition: ({self.position[0]}, {self.position[1]})"
```