# CS 112 Lab 6 – Exercise – String Formatting (Due: Thurs. 06/24, 11:59pm)

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## Files:

- **download** tester file on the blackboard for testing. You should be able to create your code file from scratch by now.

- Grading is based on the fraction of passing tests. You can run it like this:
  `python3 testerL6E.py gmason76_230_L6.py`

As this is an **Exercise**, you can read any and all materials, ask us questions, talk with other students, and learn however you best learn in order to solve the task. Just create your own solution from those experiences, and turn in your work.

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We can manually build up the strings we need for our programs, but it's far more convenient to use Python's built-in formatting options –the `%` operator, the `format()` method or `f-strings`. If you haven't done so yet, complete readings from the official documentation in preparation. It is important to learn how to find and read such documentation as we become good programmers.

- `%` operator: LIB 4.7.2, ZY 11.5
- `format` method: LIB 6.1.3, ZY 3.8
- `f-strings`: LANG 2.4.3

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## Notes

- You must use the indicated formatting approach to get credit for each task.
- Don't call `input()` or `print()` anywhere.
- A few of the tasks have individual restrictions about what may be called; note them, as we will remove points for any task that uses them.

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## Turning It In

Add a comment at the top of the file that indicates your name, userID, G#, lab section, a description of your collaboration partners, as well as any other details you feel like sharing. Please also mention what was most helpful for you. Once you are done, run the testing script once more to make sure you didn't break things while adding these comments. If all is well, go ahead and turn in just your one .py file you've been working on, named with our usual convention (see above), over on BlackBoard to the correct lab assignment. We have our own copy of the testing file that we'll use, so please don't turn that in (or any other extra files), as it will just slow us down.

# Tasks

Implement each of the following functions. We will be checking that you actually use the string formatting as proscribed!

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- **`def show_time(hour,min):`** Accept integers for the hour (values from 0 to 23) and the minute (values from 0 to 59). Construct the correct clock representation, such as the examples below.
  - **you must use the format method or f-strings.**
  - Examples:
    - `show_time(9,15)` → `"9:15am"`
    - `show_time(0,0)` → `"12:00am"`
    - `show_time(12,0)` → `"12:00pm"`
    - `show_time(22,5)` → `"10:05pm"`

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- **`def split_up(funds, people):`** Given an amount of money and a headcount, split up the funds evenly, down to the penny.
  - **You must use the % operator to solve this one.**
  - Examples:
    - `split_up(20,3)` → `"each person (of 3) gets $6.67 as their share"`
    - `split_up(1.5,6)` → `"each person (of 6) gets $0.25 as their share"`
    - `split_up(100,100)` → `"each person (of 100) gets $1.00 as their share"`

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- **`def border_msg(msg):`** Given a message that may contain multiple lines, utilize the split() function to identify the individual lines, and use **the formatting approaches we've learned** as part of your solution to create the string that, when printed, draws a box around the message's lines, all centered. The box uses vertical bars and dashes on the sides (**|**, **-**), plusses in the corners (**+**), and there is always a column of spaces to the left and right of the widest line of the message. All lines are centered.

- Example sessions, showing the string you must build, and what it'd look like when printed:

```
>>> border_msg("hello")
'+-------+\n| hello |\n+-------+\n'
>>> print(border_msg("hello"))
+-------+
| hello |
+-------+

>>> border_msg("hi!\nhow are you?\ndrive safely!")
'+---------------+\n|      hi!      |\n| how are you?  |\n| drive safely! |\n+---------------+\n'
>>> print(border_msg("hi!\nhow are you?\ndrive safely!"))
+---------------+
|      hi!      |
| how are you?  |
| drive safely! |
+---------------+

>>>
```