Fussing with Functions

Computer Science - Week 2  
Jul 23, 2022 - Version 2.0.0

Please make sure that all members of the group place their UD **email** AND **name** below.

Choose roles following the [instructions here](https://blockpy.cis.udel.edu/assignments/reading/bakery_appendix_pogil).

You should work in groups of 3. If you cannot find 3 group members, then work in groups of 2.

| **Role** | **Name** | **Email** |
| --- | --- | --- |
| **Manager** | Michael Cheng | mrcheng@udel.edu |
| **Speaker** | Mason Davis | mcd@udel.edu |
| **Recorder** | Zach Phillips | phillizr@udel.edu |

# Critical Thinking Questions

Discuss each of the following questions and formulate a group answer.

It is better to answer some questions completely than all the questions partially.

Make sure you provide clear, detailed answers.

In some cases, you may want to research your answer.

1) Why do we have functions?

| Easily reuse code and to compartmentalize code for easier debugging. |
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2) What is the difference between parameters and arguments?

| Parameters: variables built into the functions  Arguments: Data that is inputted into the function |
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3) Why do docstrings exist?

| To easily share and explain code with others and allow for debugging. |
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4) Why do we have assert\_equal?

| To test functions and help debug. |
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5) What happens when you call a function?

| The function runs and goes through the order of that function to get the output needed. |
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6) Why is it the “def” keyword, instead of something else? What does “def” mean?

| Def means define, so it defines the name and any parameters that are in the function. We use that because it’s the keyword that the Python developer created. |
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7) What happens if you have two different functions with the same name?

| The second function always “overrules” the first function, and will lead to unintended consequences. |
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8) What happens if you don’t have a return statement in your code? What if you have the return keyword, but not a value after it?

| The function will run, but it will not return a value |
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9) Can you put unit tests before the function definition? What about inside the definition?

| The unit test will result in an error because the function has not been defined yet. If the unit test is run in the function, it will not run the test correctly. Testing it looks like it created a loop. |
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10) What happens when you have an empty function body?

| The program does not run, “IndentationError”. |
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11) What happens if the return type in the header doesn’t match the type of the returned value?

| The function still works, however, unit testing fails. |
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12) Python itself doesn’t actually require you to specify the parameter’s type. Why does BlockPy require them?

| It’s education and enforces good habits. It also lets someone seeing the code verify that the function does what you want it to do. |
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# 3) Reflect and Review

Discuss among yourselves: what did you learn from this activity? What was surprising or interesting? If you didn’t learn anything, what do you think we were trying to teach you? How could this activity be improved?

| Trying to teach us how functions work and how they work. |
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| Learned about docstrings more in depth. |
| Unit tests running in the function it’s testing caused an infinite loop. |

# Final Submission

When your group is happy with your answers for all the questions, download this file as a Word Document (docx) and upload the file to the appropriate assignment on Canvas.

Only one member of your group needs to submit.