

# Project 1

*Due Sunday, January 31 by 11:59pm*

For this first project you will create a single file that, when run in Python, will perform the following actions in order. Please read **all instructions** before beginning the project.

Below is the list of actions your code should perform, in order. However, if you cannot get your code to perform an action then please skip that action and have your code move on to the next action. Partial code that causes an error can be left in your file for partial credit, but should be commented out so that your code will run. Code that doesn't run (i.e. causes an error) will not receive as much partial credit, even if it is "close" to running.

## ACTIONS

- First, your code should prompt the user (using `input`) for a number, then plug that number into the equation

$$y = \frac{\sqrt{x^2 + 9} - 7}{2x + 5}$$

and then `print` the value of `y` for the user. The output should be rounded to 3 decimal places. See example below.

- Second, your code should prompt the user (using `input`) to enter a string and then output (using `print`) a single sentence on one line that tells the user what percentage (rounded to 1 decimal place) of the characters in the string consists of the characters `e` or `4`. The output should be in the format "Percentage of e's and 4's in the string <string> : <percent>%". See example below.
- Third, your code should prompt the user (using `input`) for a number of bits. It should then output (using `print`) a single expression showing the equivalent number of gigabytes, megabytes, and kilobytes (rounded down to the nearest kilobyte). All three numbers should be integers. See example Below.

## EXAMPLE

This is an example of what your code should do when it is run. Please note that the 0.681, Every multiple of 4 must be even, and 13009902468 are the inputs typed and entered by the person running the code.

```
Please provide a value for x: 0.681
```

```
The value of y is: -0.594
```

```
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```

```
Please enter a string: Every multiple of 4 must be even.
```

```
The percentage is 18.2 %
```

```
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```

```
Please enter a number of bits: 13009902468
```

```
The number of bits given is equal to 1 gigabytes 626 megabytes 237 kilobytes
```

Lastly, a few rules that apply to all projects.

- Your project must be submitted to Gradescope as a `.py` file (for instance, `Proj1.py`)
- **Name, UIC email, and Signature:** Please include your name and UIC email at the top of your submission as a comment. You must also copy and paste the following statement as a comment at the top of your file (make sure to put your name at the end):

I hereby attest that I have adhered to the rules for quizzes and projects as well as UIC's Academic Integrity standards. Signed: [[your full official name here]]

- ADD COMMENTS to clarify your choice of variables and to indicate what is happening at different steps of the program. The rule of thumb you should use in this course is 1 line of comments for every 3 lines of code. Your comments will be checked to see that you understand how your code is structured and what it is doing in the big picture. Code lacking in comments will be penalized!
- Even without comments, your code should be readable and clear. Avoid unneeded or slow or overly convoluted calculations. For instance, in Python it is often unnecessary to use `range(len(...))`.
- While this won't be strictly enforced, the PEP 8 style guide for Python code gives really really good advice for following proper coding conventions. Take a look at it!