| Unit 3 Math Functions, Strings, Objects Problems [Learning Plan Index - Python](https://docs.google.com/document/d/1B5yWb6wCSRhqD42iWxCi7bmLPY2EqvU6pbiEQT0zs20/edit?usp=sharing)    *Unit 03 of Python Programming - Math Functions, Strings, Objects Problems* | |
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| Learning Targets  This unit we will…  Explore mathematical functions, String methods & ASCII characters, concatenation, escape sequences, and formatting output.  I can…   * use string methods to manipulate a string. * Combine the eval function with the input function to convert input to an int * Use basic mathematical operations to manipulate user input to generate the proper output. * Use the time module to return the current time. * Use the datetime module to get the current year.   Vocabulary: input, eval, int, float, variables, comments, assignment, assignment operators, numeric operations, time, datetime. | |
| Learn About It!  *You can explore some, or all of these resources. If you want to see a resource again, go for it!*  [Learning Plan Index - Python](https://docs.google.com/document/d/1B5yWb6wCSRhqD42iWxCi7bmLPY2EqvU6pbiEQT0zs20/edit?usp=sharing) *The Colab documents review the concepts of each unit with code you can run and modify.* | |
| Evidence of Learning  *Complete the following programming exercises.*  [Grading Rubric](https://docs.google.com/document/d/1shjqolaw_5tSX9T5OJ2FZuBeon7K3hDrYEJ5m1ltSEw/edit?usp=sharing) | |
| Unit Programs  Review [Colab - Strings, Escape Sequences, print end, Format, Turtles](https://colab.research.google.com/drive/1RLtd5R2RXAj50-Y3_YvbNYkZqcJvUsMO) then do the program problems listed below. There are tips, sample code, and links to sample code that you will use within the Colab documents, you also may want to refer back to early colabs. There will be two sets of problems to do, the first group can be done in a single file and the turtle program should be done in a separate file. There are pictures of what your output should look like below. Name the files **Unit03\_YourLastName.py and Unit03Turtle\_YourLastName.py**, if you do this set of problems in [repl.it](https://repl.it/) name the repl.it Unit03\_YourLastName and Unit03Turtle\_YourLastName and turn the share links into the classroom.  **Unit03\_YourLastName**  **Sample output is shown below**   1. ASCII Conversion (15 points) - Using your knowledge about [ASCII characters](http://www.asciitable.com/) ask the user for two inputs of numbers. First a number from 65-90 which you will convert and output as an uppercase and lowercase letter. Next a number from 97-122 which you will convert and output as a lowercase and uppercase letter. 2. Financial application: payroll (20 points) - Write a program that reads the following information as input and prints a payroll statement (sample run with output is in the image below. Input:    1. Employee’s name (e.g., Smith)    2. Number of hours worked in a week (e.g., 40)    3. Hourly pay rate (e.g., 10)    4. Federal tax withholding rate (e.g., 5%)    5. State tax withholding rate (e.g., 5%) 3. Random time.time() (20 points) - Output a random uppercase letter using time.time() 4. String Methods (15 points) - Starting with txt1 = "princiPle" using **only two calls** to [String methods](https://www.w3schools.com/python/python_ref_string.asp), change the word to Principal (all capitalization counts). You cannot replace the entire word. This program should be a total of four lines starting with txt1 = "princiPle" and ending with print(txt1). 5. Olympic Rings (30 points) - Using five different turtles recreate the olympic rings as shown below. Be sure to get the overlaps of the rings correct. Using the turtles for the overlap is acceptable, let me know if you figure out another way.     Sample output of what your program should look like is shown in the image below. Make sure you have a comment block at the top of your program with your name, the date and a list of the programs that are being run in the program. Also make sure to comment your variables saying what the value is they are holding.  ############################################################################  # Name : Date: #  # Unit 3 Problems #  #. ASCII Characters, payroll application, random uppercase letter, #  # String Methods, Turtle Olympic Rings #  ############################################################################  When your code works and is commented, turn it into the classroom. | |
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What a random meme, did you use time.time()