**ENGR 102 Sect Lab 8b**

**Individual Canvas submission**

**150 points**

**Reading assignment:**

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| --- | --- |
| **Lecture Slides** | **L07, L08** |
| **zyBook** | **Chapter 7** |
| **Halterman python book handout** | **Chapter 9 Lists** |

*Attention!!*

*You are allowed to work in group, but it is individual submission.*

*Submit* *your Py-files together with your word/pdf file with screenshots of your codes and tests outputs. Include any derivations, comments and supplemental notes in your word/pdf files.*

*If you are making pictures by the phone –make sure that it is readable. You will be allowed to resubmit and reupload HW as many times as you want to within the due date/time, only last submission will be graded. See syllabus for late submissions. For submission you may use this file as template: rename file including your name. Do not forget to put your name inside of this file as well.*

*Deliverables: result file with your screen shots and all your py-files*

You are tasked with writing codes. These problems are straightforward but will require you to spend time developing your logic. Complete any 3 green [3x10=30 points], 3 cyan[3x10=30 points], 3 yellow[3x10=30 points], and 6 magenta[6x10=60 points] python files.

1. Python Program to Replace all Occurrences of ‘a’ with $ in a String

2. Python Program to Remove the nth Index Character from a Non-Empty String

3. Python Program to Detect if Two Strings are Anagrams

4. Python Program to Form a New String where the First Character and the Last Character have been Exchanged

5. Python Program to Count the Number of Vowels in a String

6. Python Program to Take in a String and Replace Every Blank Space with Hyphen

7. Python Program to Calculate the Length of a String Without Using a Library Function

8. Python Program to Remove the Characters of Odd Index Values in a String

9. Python Program to Add a Key-Value Pair to the Dictionary

10. Python Program to Concatenate Two Dictionaries Into One

11. Python Program to Check if a Given Key Exists in a Dictionary or Not

12. Python Program to Generate a Dictionary that Contains Numbers (between 1 and n) in the Form (x,x\*x).

13. Python Program to Sum All the Items in a Dictionary

14. Python Program to Multiply All the Items in a Dictionary

15. Python Program to Find the Largest Number in a List

16. Python Program to Find the Second Largest Number in a List

17. Python Program to Put Even and Odd elements in a List into Two Different Lists

18. Python Program to Merge Two Lists and Sort it

19. Python Program to Sort the List According to the Second Element in Sublist

20. Python Program to Find the Second Largest Number in a List Using Bubble Sort

21. Python Program to Sort a List According to the Length of the Elements

22. Python Program to Find the Union of two Lists

23. Python Program to Find the Intersection of Two Lists

24. Python Program to Compute Prime Factors of an Integer

25. Python Program to Generate all the Divisors of an Integer

26. Python Program to Print Table of a Given Number

27. Python Program to Print Sum of Negative Numbers, Positive Even Numbers and Positive Odd numbers in a List

28. Python Program to Print Largest Even and Largest Odd Number in a List

29. Python Program to Form an Integer that has the Number of Digits at Ten's Place and the Least Significant Digit of the Entered Integer at One's Place

30. Python Program to Find Those Numbers which are Divisible by 7 and Multiple of 5 in aGiven Range of Numbers

31. Python Program to Check if a Number is an Armstrong Number

32. Python Program to Print the Pascal's triangle for n number of rows given by the user

33. Python Program to Check if a Number is a Perfect Number

34. Python Program to Check if a Number is a Strong Number

35. Python Program to Find the Least Common Multiple of Two Numbers

36. Python Program to Find the Greatest Common Divisor of Two Numbers

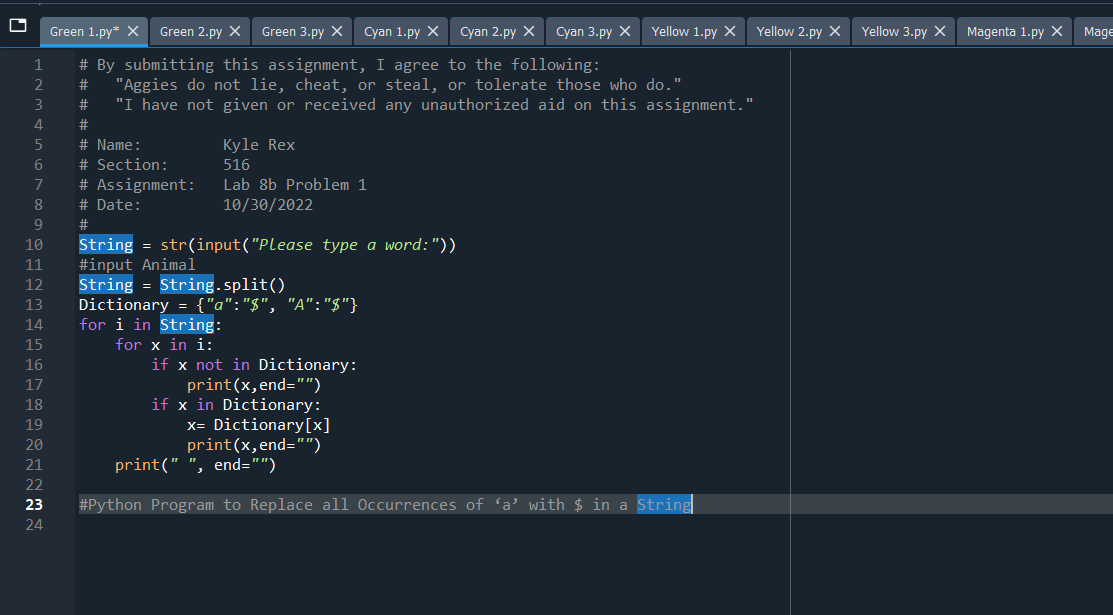
37. Python Program to Compute a Polynomial Equation given that the Coefficients of the Polynomial are stored in a List

38. Python Program to Check If Two Numbers are Amicable Numbers

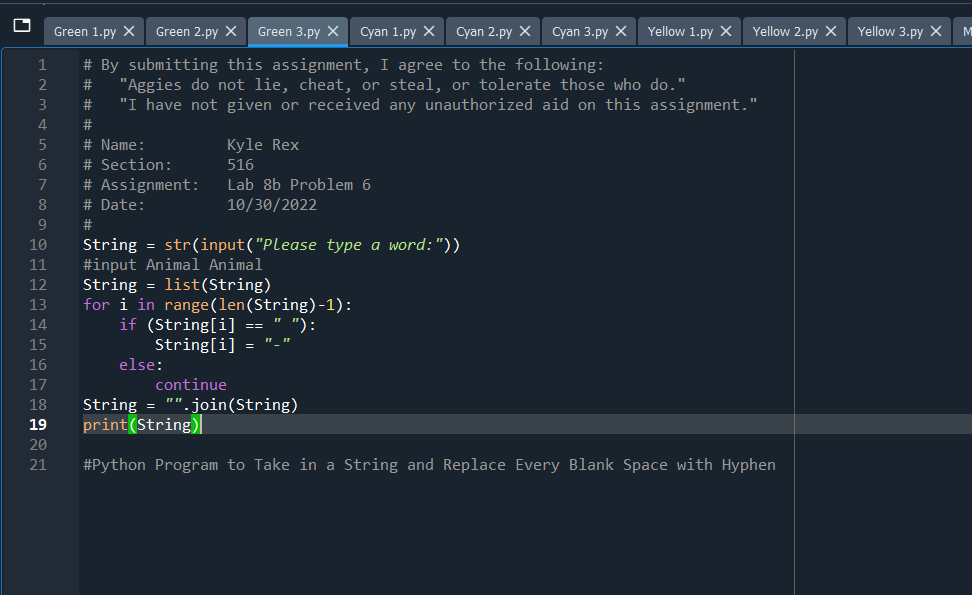
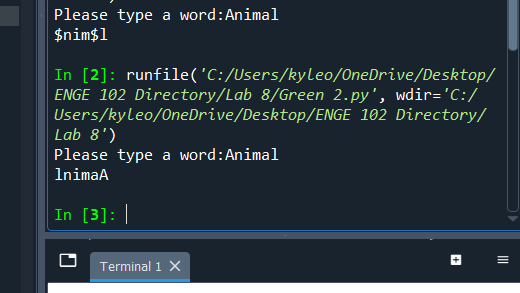
39. Python Program to Find the Area of a Triangle Given All Three Sides

40. Python Program to Find the Smallest Divisor of an Integer

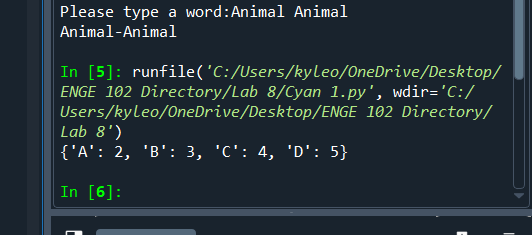
Complete any 3 green, 3 cyan, 3 yellow, and 6 magenta python files. Put question/ screenshots of the code and output for each task.

Text

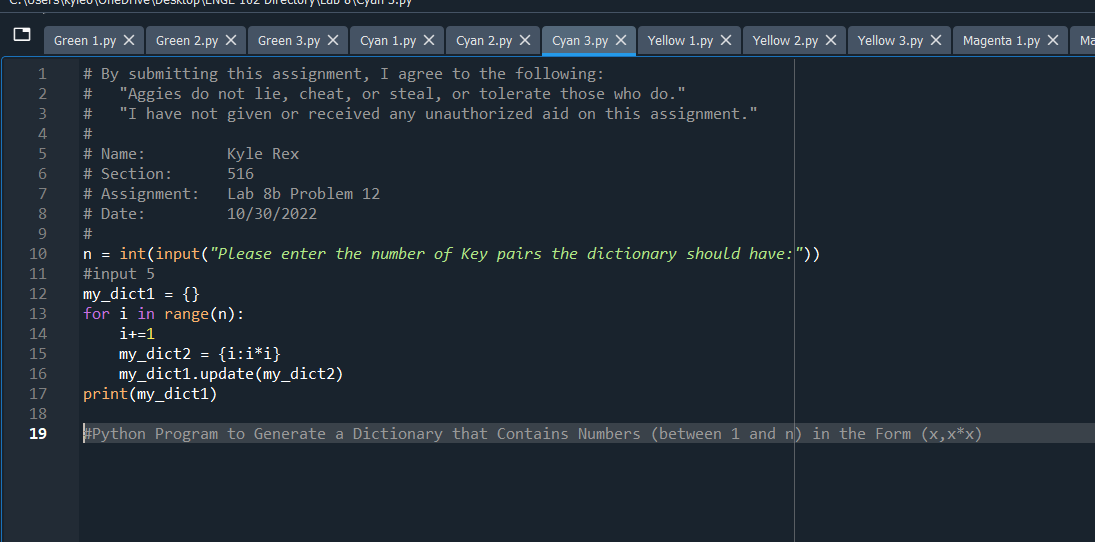
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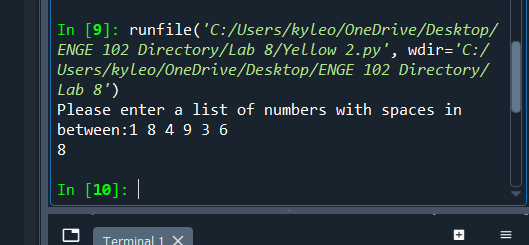
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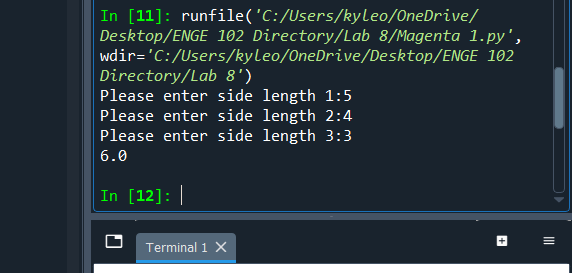
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