

**Homework 4:**  
**Code Exercises**  
**Due Date: June 28, 2024**

**Objective:**

Enhance your Python programming and problem-solving skills through solving coding exercises.  
Remember, practice is key to mastery!

**Submission:**

Submit a single .pdf document in Canvas with all the sections.

**Section 1: Word Frequencies**

- Open a text file containing at least two pages of text of a book of your choice.
- Split the content into individual words.
- Create a dictionary to tally the frequency of each unique word.
- Convert words to lowercase for case insensitivity.
- Strip punctuation marks such as ., ,, !, ?, ", (, ), and '.
- Print the top 10 most frequent words in descending order.
- Please include the original text for reference at the end of your document (can be in a cell).
- TIP: For sorting lists, research about the built in function **sorted()** or **.sort()**.

Expected Output Format:

Sorted Top 10 Word Frequencies in Descending Order:

```
the      : 44
and      : 34
of       : 23
mammals  : 20
in       : 15
are      : 10
to       : 10
from     : 8
for      : 8
a        : 7
```

**Section 2: Shopping List**

- Initialize an empty list named shopping\_list.
- Prompt the user to input items to add to the shopping\_list.
- The user should type 'Finish' when they have completed their list.
- Display the entire shopping list.
- Prompt the user to enter an item name to check for its presence in the list.
- Use conditionals and comparison operators to determine if the item is in the list.
- TIP: Research about the **input()** function for user interactions.

Expected Input/Output Interaction:

```
Enter your items for the shopping list. Type 'FINISH' to end the list.
Enter item 1 for your shopping list: Milk
```

Enter item 2 for your shopping list: Cheese  
Enter item 3 for your shopping list: Apples  
Enter item 4 for your shopping list: Oreo  
Enter item 5 for your shopping list: Soap  
Enter item 6 for your shopping list: finish

Your shopping list: ['MILK', 'CHEESE', 'APPLES', 'OREO', 'SOAP']

Enter an item name to check its presence in the shopping list: oreo  
Oreo is in your shopping list!