Assignment 0

CS221: Data Structures and Algorithms

Usman Institute of Technology

Fall 2020

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pm

Submission Mode: Soft-copy (MS Teams)

- **You have to submit single .py file**
- **Make sure that function names must be similar as asked in the assignment.**
- **You must read Academic Integrity at the end of this document.**

    Write Python functions for the following programs:

1. If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23. Write a function **Multiple** to <u>returns</u> the sum of all the multiples of 3 or 5 below 1000.

2. Write a function **InWords** that takes a number as a parameter and <u>returns</u> the string representing number in words.

    Example: InWords(10) should return "ten" (without quote)

3. Write a function **SplitandJoin** that splits the string on a " " (space) delimiter and joins the same string using a – hyphen.

    Example: SplitandJoin("This is a string") should print the following output:
    This-is-a-string

4. Write a function **LongestWord** that takes a parameter *word* and <u>returns</u> the largest word in the string. If there are two or more words that are the same length, return the first word from the string with that length. Ignore punctuation.

    Example: LongestWord("fun&!! time") should return "time" (without quote)

5. Given a participants' score sheet of your University's sports day. Write a function **RunnerUp** to find the runner-up score. You are given n scores. Store them in a list and find the score of the runner-up.

    Example: [2,3,6,6,5] should print 5 as the runner-up score. Since 6 is the highest and 5 is the second highest.

Academic Integrity

Each student in this course is expected to make sure that any work submitted by a student in this course for academic credit will be the **student's own work**. Scholastic dishonesty shall be considered a serious violation of these rules and regulations and is subject to strict disciplinary action. Scholastic dishonesty includes, but is not limited to, cheating on exams, plagiarism on assignments, and collusion.

PLAGIARISM: Plagiarism is the act of taking the work created by another person or entity and presenting it as one's own for the purpose of personal gain or of obtaining academic credit. Plagiarism includes the submission of or incorporation of the work of others without acknowledging its provenance or giving due credit according to established academic practices. This includes the submission of material that has been appropriated, bought, received as a gift, downloaded, or obtained by any other means. Students must not, unless they have been granted permission from all faculty members concerned, submit the same assignment or project for academic credit for different courses.

CHEATING: The term cheating shall refer to the use of or obtaining of unauthorized information in order to obtain personal benefit or academic credit.

COLLUSION: Collusion is the act of providing unauthorized assistance to one or more person or of not taking the appropriate precautions against doing so. Any student caught violating academic integrity will suffer an academic penalty. All violations of academic integrity will also be immediately reported to the Disciplinary Committee. Any student violating academic integrity a second time in this course will receive a failing grade for the course, and additional disciplinary sanctions may be administered through the Disciplinary Committee.

Conclusively, each student need to be take care of:

1. You must not share your solutions with other students. You are encouraged to discuss the problems but each student is supposed to take care of his or her own solution.
2. You must not submit solution of other students as yours.
3. You must duly cite all resources you used in development of your solution.