



Session 2

Assignment 1 Question

Session 2: Assignment 1

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1. Introduction

This assignment will help you to consolidate the concepts learnt in the session.

2. Problem Statement

Task 1:

1.1

Write a Python Program to implement your own `myreduce()` function which works exactly like Python's built-in function `reduce()`

1.2

Write a Python program to implement your own `myfilter()` function which works exactly like Python's built-in function `filter()`

2.

Implement List comprehensions to produce the following lists.

Write List comprehensions to produce the following Lists

`['A', 'C', 'A', 'D', 'G', 'I', 'L', 'D']`

`['x', 'xx', 'xxx', 'xxxx', 'y', 'yy', 'yyy', 'yyyy', 'z', 'zz', 'zzz', 'zzzz']`

`['x', 'y', 'z', 'xx', 'yy', 'zz', 'xx', 'yy', 'zz', 'xxxx', 'yyyy', 'zzzz']`

[[2], [3], [4], [3], [4], [5], [4], [5], [6]]

[[2, 3, 4, 5], [3, 4, 5, 6], [4, 5, 6, 7], [5, 6, 7, 8]]

[(1, 1), (2, 1), (3, 1), (1, 2), (2, 2), (3, 2), (1, 3), (2, 3), (3, 3)]

3.

Implement a function `longestWord()` that takes a list of words and returns the longest one.

Task 2:

1.1

Write a Python Program(with class concepts) to find the area of the triangle using the below formula.

$$\text{area} = (s*(s-a)*(s-b)*(s-c))^{0.5}$$

Function to take the length of the sides of triangle from user should be defined in the parent class and function to calculate the area should be defined in subclass.

1.2

Write a function `filter_long_words()` that takes a list of words and an integer `n` and returns the list of words that are longer than `n`.

2.1

Write a Python program using function concept that maps list of words into a list of integers representing the lengths of the corresponding words.

Hint: If a list `[ab,cde,erty]` is passed on to the python function output should come as `[2,3,4]`

Here 2,3 and 4 are the lengths of the words in the list.

2.2

Write a Python function which takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.

NOTE: The solution shared through Github should contain the source code used and the screenshot of the output.

3. Output

N/A