

Practice Questions - Functions

Create functions for problems from weeks 1 & 2

Question 1:

Create a function which takes 2 lists and a choice of **append()**, **extend()**, **insert()**, and **concatenation**, then returns the added list according to the selected choice.

function call → `add_lists (list_1, list_2, use_append)` \ returns → `[list_1, list_2]`

In []:

Question 2:

Write a function that tests whether a list or a string is empty or not.

function call → `test_empty (list_1)` \ returns → `true` or `false`

In []:

Question 3:

Write a function that takes an integer `n` and return a dictionary whose keys are integers 1, 2, 3, ... `n` and whose values are `1!`, `2!`, `3!`, ..., `n!`

function call → `factorial_dict (3)` \ returns → `{ 1 : 1, 2 : 2, 3 : 6 }`

In []:

Question 4:

Write a function to identify the largest word in a string.

function call → `largest_word ("Fear leads to anger, anger leads to hate, hate leads to suffering.")` \ returns → `"suffering"`

In []:

Question 5:

Write a function to calculate the sum of the diagonal elements of a **`n X n`** matrix.

function call → `diagonal_sum([[1 4 7] [2 5 8] [3 6 9]])` \ returns → `15`

In []:

Question 6: Given a student score (between 0 and 100), write a function to evaluate the following criteria.

- Eligible for funding if the score is greater than 90
- Fail if the score is less than 70
- Need tutoring if they are not qualified for funding and haven't failed.

function call → `student_assessment(67)` \ returns → Fail

In []:

Question 7: Write a function to check if the given year is a leap year.

function call → `cheap_leap(1995)` \ returns → "No"

In []:

Question 8: Write a function which returns the number of days in the given month. (You can assume 28 days for February)

function call → `get_days("January")` \ returns → 31

In []:

Question 9: Write a function which takes the user's weight(in lbs) and height(in inches), and then returns the bmi using the below formula.

$BMI = Weight \times 0.45359 / ((Height \times 0.0254) \times Height \times 0.0254)$

function call → `calculate_bmi(150, 70)` \ returns → 21.522

In []:

Question 10: Write a function to check whether a number is prime or not.

function call → `check_prime(13)` \ returns → "True"

In []: