Exercise 1: Part 2

Loops and Code Correction

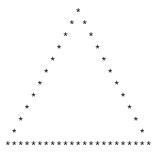
Python Programming Bootcamp by Dr Rohitash Chandra UNSW, 2021

1 Write a function that prints a right triangle of different sizes. The size of the triangle is given as input to the user. (10 points)

Please enter an integer value n: 10

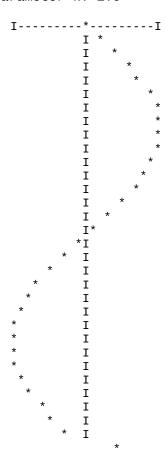
2 Write a function that prints an isosceles triangle of different sizes. The size of the triangle is given as input to the user. (10 points)

Please enter an integer value n: 10



3. Write a function that computes and prints the function $y = f(x) = \sin(k, x)$ in the range [a, b]. Both the range and the parameter k are given as input by the user. (30 points)

Please enter the lower limit: 0.0 Please enter the upper limit: 6.28 Please enter the parameter k: 1.0



4. In this folder, you have an example of a python code that tries to generate some data and save into a file. This is an example of terrible coding and you job is to develop a function that does the same with better code planning and execution. Can you fix this and think of strategies to make this more creative, i.e generate some data and run some matrix operations and try to make some plots such as heatmaps and histograms? (50 points)

Resources:

- 1. https://www.geeksforgeeks.org/how-to-draw-2d-heatmap-using-matplotlib-in-python/
- 2. https://matplotlib.org/stable/gallery/statistics/hist.html

Acknowledgment

The assignment is adapted from exercise designed by Prof. Christian Omlin