

Challenge - Physics Calculator

The object of this challenge is to practice adding event bindings to a Tkinter program.

Mild

Create a program that satisfies the following requirements:

- There is a labeled input field for the `distance` an object has travelled
- There is a labeled input field for the `time` it took the object to travel that far
- There is a function that uses the `distance` and `time` to calculate the `velocity` of the object
- A button to call the function
- A label to display the `velocity`

Medium

Create a program that satisfies the following requirements:

- There is a labeled input field for the `distance_1` an object has travelled
- There is a labeled input field for the `time_1` it took the object to travel that far
- There is a labeled input field for the `distance_2` an object has travelled
- There is a labeled input field for the `time_2` it took the object to travel that far
- There is a function that uses `distance` and `time` to calculate `velocity`
 - $$\text{velocity} = \text{distance} / \text{time}$$
- There is a function that uses `velocity_1`, `velocity_2`, `time_1`, and `time_2` to calculate `acceleration`
 - $$\text{acceleration} = (\text{velocity}_2 - \text{velocity}_1) / (\text{time}_2 - \text{time}_1)$$
- A button to calculate `acceleration`
- A label to display the calculated `acceleration`

Spicy

Create a program that satisfies the following requirements:

- There is a labeled input field for the `distance_1` an object has travelled
- There is a labeled input field for the `time_1` it took the object to travel that far
- There is a labeled input field for the `distance_2` an object has travelled
- There is a labeled input field for the `time_2` it took the object to travel that far
- There is a labeled input field for the `mass` of the object
- There is a function that uses `distance` and `time` to calculate `velocity`
 - $$\text{velocity} = \text{distance} / \text{time}$$
- There is a function that uses `velocity_1`, `velocity_2`, `time_1`, and `time_2` to calculate `acceleration`
 - $$\text{acceleration} = (\text{velocity}_2 - \text{velocity}_1) / (\text{time}_2 - \text{time}_1)$$
- There is a function that uses `velocity_1`, `velocity_2`, `time_1`, and `time_2` to calculate `acceleration`
 - $$\text{acceleration} = (\text{velocity}_2 - \text{velocity}_1) / (\text{time}_2 - \text{time}_1)$$
- There is a function that uses `mass` and `acceleration` to calculate `force`.
- A button to calculate `force`
- A label to display the calculated `force`