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| **AP CSP Python with CodeX**  **Mission 6 Obj 8-11 Assignment** | | **Name:** |
| **Getting Started** | | |
| In this project you enable CodeX to animate the beating heart by using a variable to adjust the speed. **During this lesson you will complete the last goal:** Make the heartbeat speed adjustable using two buttons. | | |
| **Mission 6 : Heartbeat Objectives 8-11** | | |
| Open the ***Heart2\_functions*** program from the last lesson. | | |
| Complete Objective 8 Read ALL the instructions. Click on float to add it to your toolbox.  What is a “float”?  Give an example of a float, other than pi: | Adjust the sleep() functions that are in your heart\_beat() function. | |
| Complete Objective 9 *Use CodeTrek if needed.*  *Review:* What is a variable? |  | |
| Complete Objective 10 Read ALL the information. Adding a value, like 0.2, to a variable is called “increment”.  Give an example of incrementing a variable:  You will NOT remove the break, because it is in a different if statement. Instead, add the code for BTN\_A just above the kill switch. |  | |
| Complete Objective 11 Read ALL the instructions. Subtracting a value, like 0.2, to a variable is called “decrement”.  Give an example of decrementing a variable:  When the program runs and you press BTN\_B several times, you will get an error.  What is the error?  Why do you get this error? |  | |
| Take the quiz. How did you do? Is there a concept you need to review? |  | |
| Create a function for adjusting the speed of the heartbeat. You can call it **adjust\_speed()**.   * Put the two **if** statements for BTN\_A and BTN\_B in the function. * Add another if statement to fix the error. If delay is less than 0.2, set it to 0.2. * Add this line of code at the top of the function. We will talk about what it does in a later mission:   + global delay | | |
| Call the adjust\_speed() function in the main program, under heart\_beat().  Run the code and make sure there are no bugs before submitting. | | |
| Submit the ***Heart2\_functions*** program to the teacher. | | |