Test 2: Psychopy Coder (Chapter 2 to 4)

Name ……

Student nr ……

Read through the entire assignment first before implementing your code. It is important to have a clear view on what's expected and on how your final experiment should look like.

When you're finished with the test, make sure you save the .py file using your first name and last name (e.g. 'Test2_Goetmaeckers_Fien.py'). Go to 'Instruments of Experimental Psychology' on Ufora, click on 'Ufora-Tools' and next on 'Assignments'. Click on 'Test 2 – PsychoPy Coder'. Use 'Add a file' to upload and don't forget to click on 'Submit' afterwards. Once you did this, please come to us, so that we can check whether we received all files properly. **Don't forget to hand in this sheet - with your name and student nr on it!**

Practical tips:

- Put the general structure of the experiment on paper before starting.
- Do not forget to regularly run your experiment after adding new elements. This will ease the process of debugging your code (if needed). For a code that runs without errors (regardless of whether you managed to implement all elements that are asked) you earn **1 point** (out of 30). Hint: print() can be useful when debugging code.
- Keep a clear structure and use meaningful names, and do not forget to add comments to your code. For clearly structured and commented code you earn **2 points** (out of 30)**!**
- Even if you do not manage to implement all elements that are asked, it is worth commenting on what you have done or tried. This way you provide us some insight of what you have learned. A partial solution is better than no solution.
- Avoid useless code because that can cost you **1 point** (out of 30).

General Description

We will program a simple visual discrimination task. In this task, participants will on each trial see a target which is a colored (green or red) shape (circle or square). At first, this target will be very small, but it will rapidly increase in size. Participants will perform two blocks of the current task. In one block, they must identify the shape (i.e., say whether it's a square or a circle) and in the other block they must identify the color (i.e., say whether it's red or green).

For this test, participants' responses are not registered. The focus will be on implementing graphical elements and the most appropriate data types and control structure.

Step 1: Interact with your participant

- Work on a window that is 500 pixels wide and high.
- Use a yellow background color for the window. All text should be presented in black.
- Use the norm coordinate system.
- We will use personal interaction with the participant. For this purpose, you need to initialize some information at the top of your script. Make a variable "participant_name" (e.g.,Fien Goetmaeckers), a variable "participant_title" for the title of the participant (e.g., Mrs) and a variable for the "participant_number" (e.g., 2).
- Present a personalized welcome message on the window for 5 seconds. For this welcome message use the variables that you defined above to extract the title and last name of the participant. Hence, your welcome message could be "Welcome Mrs Goetmaeckers!"
- The experiment ends with a "Thank you for participating" message that lasts for 5 seconds.
- Your experiment closes automatically when it's finished.

Step 2: One trial

- There are four possible targets (red circle, green circle, red square and green square). For now, just make one trial with one of these targets.
- The target is always presented at the center of the window
- The target starts with a size of 0.5% of the window and increases in 13 steps of 1.5% until it reaches a size of 20% of the window (so the target's size is 0.5%, 2%, 3.5%, 5% …). The size increases every 0.2 seconds.
- If you don't know how to increase the size of the target, just draw the target at a size of 20% of the window for 2.8 seconds.

Step 3: Mini experiment with 16 trials

- The following instructions (notice the white spaces between lines and that the text is centered) are presented at the start of the mini-experiment, for 5 seconds:

  A colored shape will appear which increases in size.

  Your task is to indicate the shape of the target.

  If it's a circle press F,
  if it's a square press J.

- Each possible target (combination of shape and color) is presented two times, resulting in 8 trials. For this test, you don't have to worry about the order of the targets. You determine/choose the order in which they appear. Make sure that it is easy to increase the total number of trials (e.g., by changing a variable early in the script).
- A feedback message is provided at each trial. Since your participant is not yet required to respond, the feedback will on every trial display the message "Too late!".
- The position of the feedback message will be different for even and odd trials. On even trials, the feedback will be presented at the top of the window (75%) and on odd trials, the feedback will be presented at the bottom of the window (25%).
- The feedback is presented for 0.5 seconds..
- Between the final presentation of the stimulus and the presentation of the feedback there is an additional period of 0.5 seconds in which the window is blank. Hence, on every trial first the stimulus is increasing in size from 0.5 to 20% of the window then there is a blank period for 0.5 seconds and then feedback is presented for 0.5 seconds.

Step 4: Wrapping up your experiment

- Two blocks are presented, each block containing 8 trials. In one block, the participant is instructed to respond to the shape dimension (F for circle and J for square). This you have already implemented in step 3. In the other block, the participant is instructed to respond to the color dimension (F for red and J for green).
- Make sure that at the beginning of each block, the participant receives appropriate instructions on what they should do.
- The order of the block-specific instructions is counterbalanced across participants so that even-numbered participants receive one order and odd-numbered participants receive another order.