Assignment 3

Your task is to program a psychological experiment of your own choice in Python.

It can be any of the following:

- An experiment that will be used in any other module, e.g. final project, mini-projects etc.
- An experiment that you read about in a paper and want to replicate/extend.
- A classical psychological experiment.
- An imaginary experiment you came up with.

Your submission will be assessed based on the quality of your code and the complexity of the experiment. The complexity may be visual (e.g. includes animations, custom elements etc), or procedural (e.g. a complex experimental design, complex input structure etc). The code quality is determined by the program's readability, efficiency, flexibility, and organisation. Although the program should look like and be structured like a psychological experiment, we **are not interested in the soundness of the experiment itself**.

As a guide you should take Assignment 2 to be your basis. That program, in its basic implementation, consisted mainly of a choice between two options, some randomization, output to a csv and 3 between participants conditions counterbalanced. You should aim to go over and beyond that specification. Remember that we are less interested in the validity of the experiment itself and more in the complexity of the program and the quality of the code.

If you are still unsure you can email us with a brief description of your plans. Keep in mind however, that any experiment can be very simple or, given appropriate modifications, become highly complicated (so chances are that if you email us, we'll respond something along these lines).

Apart from the code, you **must also submit a document** containing:

1. **Experiment overview:** A high level description of your experiment (aim, brief background etc.)
2. **Description of procedure**: A description of how your experiment works (similar to a paper's method section).
3. **Experimenter's manual**: Imagine that you will hand your program to an experimenter who has no programming experiment. Describe everything that the experimenter will need to do in order to run your experiment, e.g. any settings that the experiment can change, any input files required, location/format/interpretation of output etc.
4. **Program highlights**: Aspects of your program that merit special mention due to their complexity, novelty etc, i.e., anything that the marker should pay special attention to.

The document should be brief, around 1000 words (though there will be no penalty for exceeding the limit).

As always, make sure that you carefully design your program before you start implementing it and that you extensively test it before submitting it. Having a friend or two to try out your experiment would be a great idea.

Some notes:

- ✓ Unlike previous assignments, you are free to use code that was not discussed in class. However, you need to demonstrate that you understand any such code included in your

submission (through comments). Blindly copying and pasting code that you find online is not a good idea.

- ✓ As your programs become larger and more complicated, it is important to consider organizing your code into separate files/modules.
- ✓ Although, you are allowed to use code from <u>YOUR</u> previous submissions to achieve specific subtasks (e.g. demographics), submitting an experiment that on the whole does not go beyond previous assignments won't be judged favourably.
- ✓ Keep the duration of the experiment short. It is the overall structure that matters not the number of trials. If your experiment works with 2 trials, it should be easily expandable to 200 trials - but we really prefer to go over 2 rather than 200 trials when marking.

Best of luck!