Introduction to Expyriment

Programming Psychology Experiments (CORE-1)

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The plan for today

1. Finish last week’s exercises (20′)
2. Your feedback (5′)
3. Introduce expyriment (15’)
4. Start coding with expyriment (50′)

Last week’s exercises

Tasks for you

```
Barbu@Mac % cd your-path/Programming/Assignments/Week-1/Exercises
```

Those of you who solved Exercise 1.1 only: Solve the next exercises

```
Barbu@Mac Exercises % python Exercise-1.1.py
```

Those of you who only solved Exercise 1: Solve Ex. 2–7 in VS Code

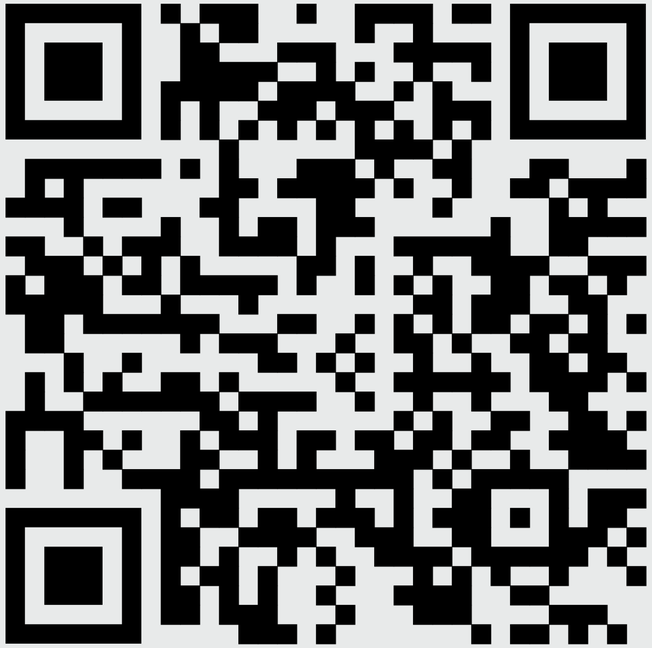
Those of you who solved Exercises 1–7: Raise your hand, we will come and look at your solutions

When done:

```
Barbu@Mac Exercises % cd ..\..
Barbu@Mac Assignments % git add .
Barbu@Mac Assignments % git commit -m "Week 1 Exercises"
Barbu@Mac Assignments % git push origin
```

Difficulty of Week 1's assignments

Fill in the form at https://forms.gle/TPDjfrC3Ejww1q26A



Admin stuff

Assignments

Each week, you are expected to submit your assignment solutions **twice**

1. At the **end of each session** (5 minutes before class ends)
2. By **Sunday at 12:00 pm** for the exercises not completed in class

Both submissions count toward your evaluation

Solutions submitted **after the deadline** will **not** be considered

Our own solutions will be posted on GitHub every Monday

Discord channel

Join at https://discord.gg/7HYSf9UU

Use it to **ask questions** about assignments when you get stuck

If you know the answer to somebody's question, don't hesitate to **answer the question yourself**

We will also use it to **provide feedback** on your assignments

Use your full name and (only if you're comfortable) upload a photo

Expyriment

What is expyriment?

A Python library for designing and running psychology, neuroscience, and psychophysics experiments

It’s meant for researchers who need to **present stimuli** (text, images, sounds) and collect responses (e.g., key presses) **with good timing precision**

Pros of expyriment

A **clean and simple** psychology experiment generator, which promotes good programming practices (readability)

It relies on Python, so it aims to be **reproducible** across platforms (we'll see about that!)

It allows researchers to **focus on the high-level, abstract structure** of experiments without having to code low-level timing or graphics routines themselves

Cons of expyriment

It relies on Python, so it's **not possible to run remote online experiments** (for this, you will learn jsPsych later on in the course)

It has a **small user community**, which means that there are not many demonstrations/examples on the web (the interface, however, is very well documented)

> *Note*: This also means that **LLMs will often hallucinate** when prompted about expyriment since the training data is sparse

What does this code snippet do?

```
fixation = stimuli.FixCross()
circle = stimuli.Circle(radius=50)

fixation.present()
clock.wait(1000)
circle.present()

keyboard.wait()
```

Let’s dig into it: https://github.com/barburevencu/PPE/blob/main/Week-2/Instructions.md

The first expyriment script

```
from expyriment import design, control, stimuli

exp = design.Experiment(name="Circle")
control.initialize(exp)

fixation = stimuli.FixCross()
circle = stimuli.Circle(radius=50)

control.start()

fixation.present(clear=True, update=True)
exp.clock.wait(1000)

circle.present(clear=True, update=True)
exp.keyboard.wait()

control.end()
```

Push your work to GitHub

Homework

Exercises 3B–E: Play around with different parameters to probe your causal perception

Exercise 3E: Launching function

Exercise 3F: Optional challenge

Exercises 4A–B: Shape, Text, and Line stimuli