Psychology Methodology Statistics

Building a multisensory integration task in OpenSesame

Lotje van der Linden

www.cogsci.nl/lvanderlinden

https://osdoc.cogsci.nl/

Psychology Methodology Statistics

Cats, dogs and capybaras

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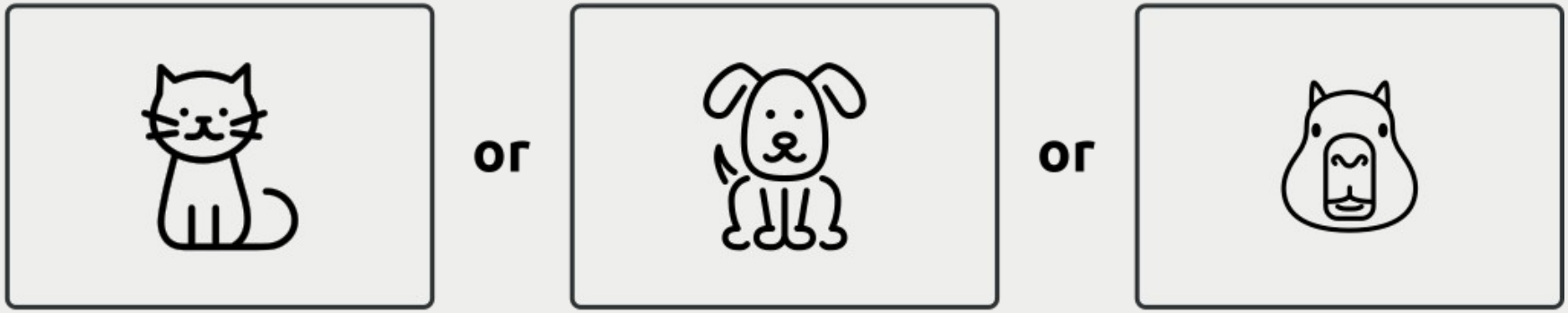
- Beginner's level
- Graphical user interface
- (Almost) no coding

Cats, dogs and capybaras

Psychology Methodology Statistics

Does sound influence animal recognition?

Cats, dogs and capybaras



Intermezzo

Psychology Methodology Statistics

- What is a capybara?

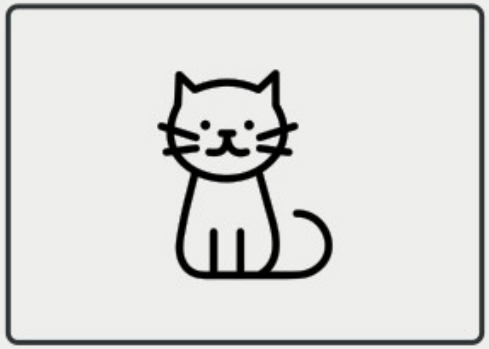
Intermezzo

Psychology Methodology Statistics

- What is a capybara?

Cats, dogs and capybaras

Psychology Methodology Statistics



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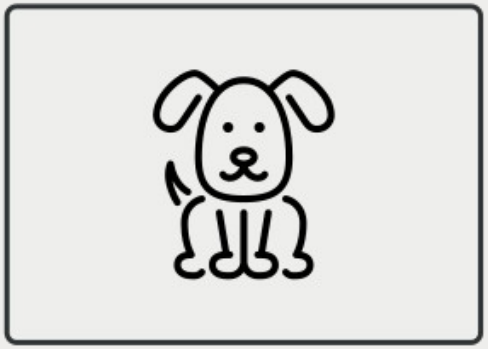

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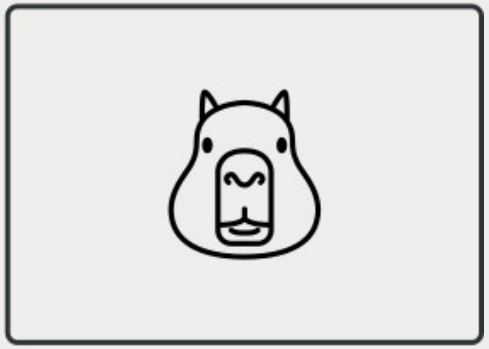
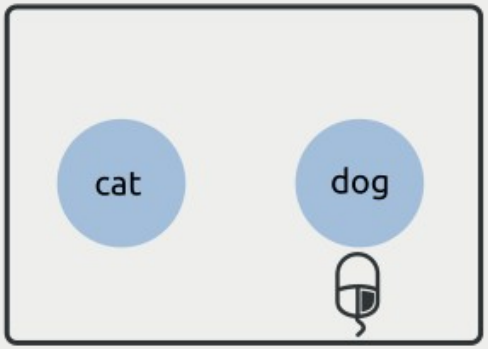


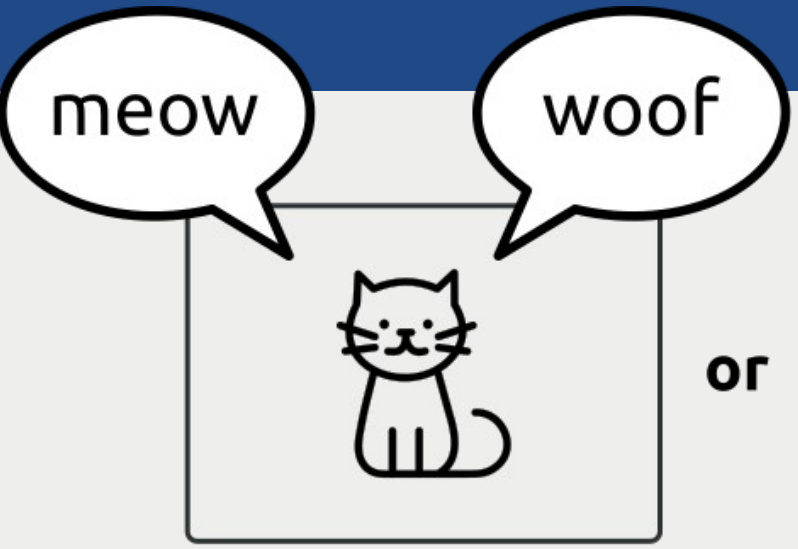


or

wait...

Cats, dogs and capybaras

Psychology Methodology Statistics



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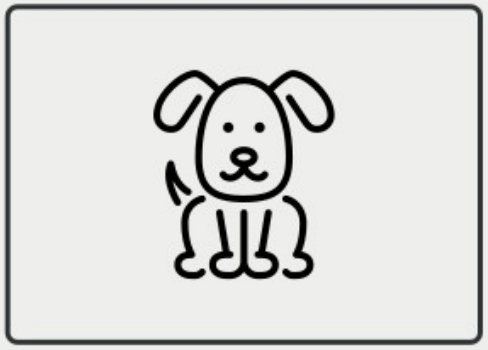

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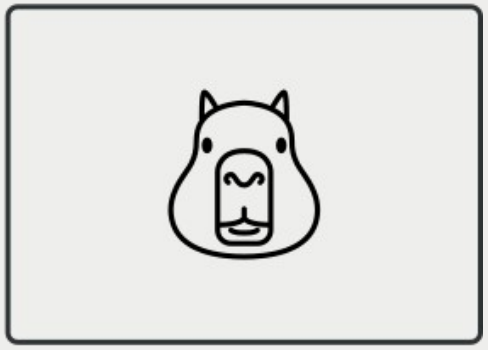
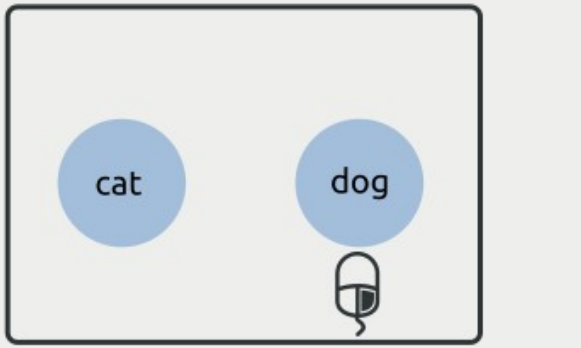




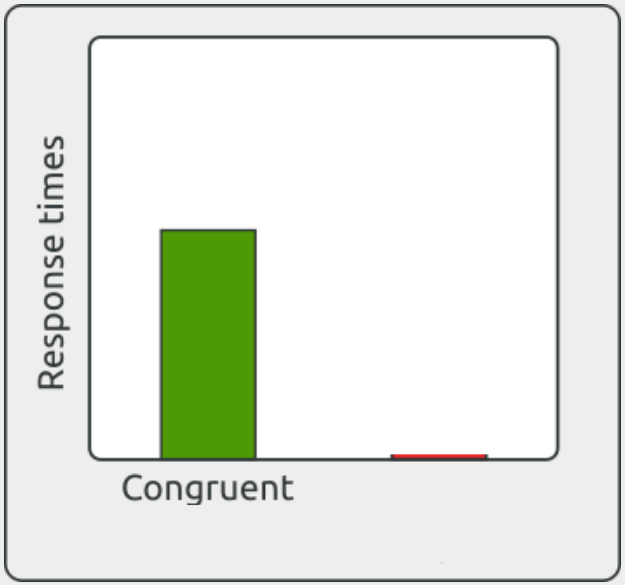
or

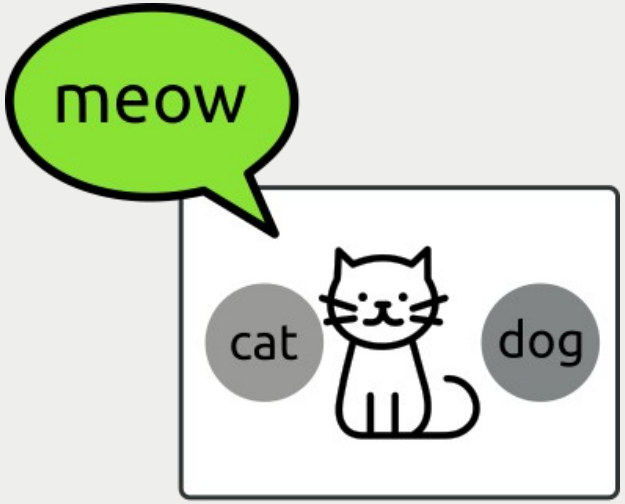
wait...

Cats, dogs and capybaras

Psychology Methodology Statistics

- Prediction 1
  - Easier to respond to **congruent** mappings

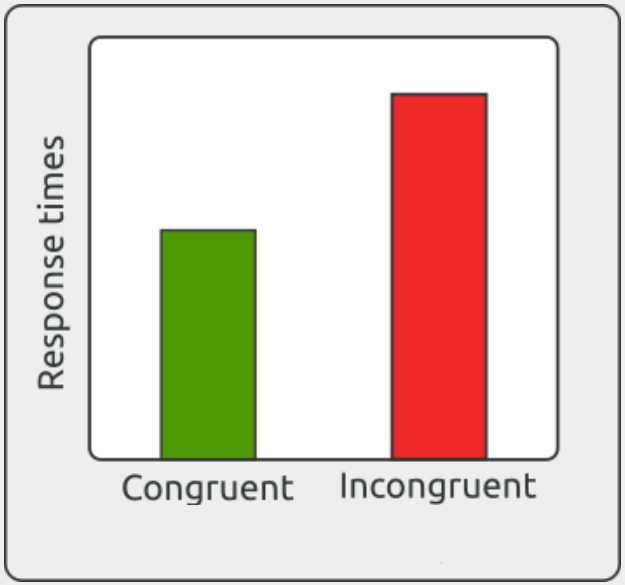


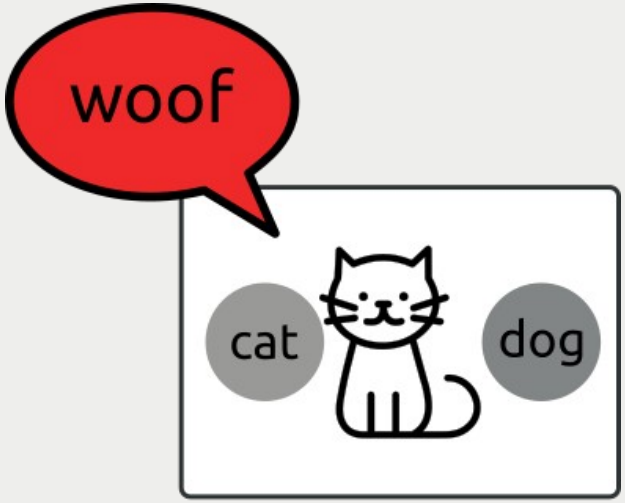


Cats, dogs and capybaras

Psychology Methodology Statistics

- Prediction 1
  - Easier to respond to **congruent** mappings
  - Than to **incongruent** mappings

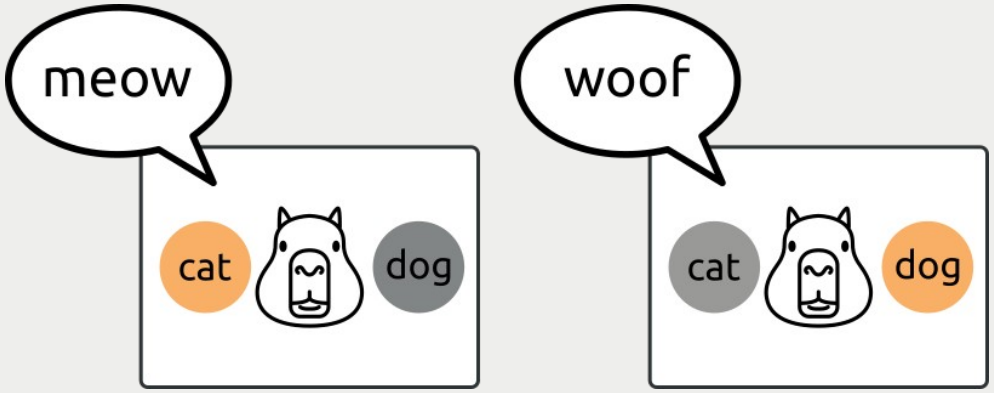




Cats, dogs and capybaras

Psychology Methodology Statistics

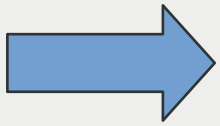
- Prediction 2
  - For false alarms after capybara
    - Biased towards sound



Experimental design

Psychology Methodology Statistics

- Independent variables
  - Animal (cat, dog or capybara)
  - Sound (bark or meow)



3 x 2 design

- But 5 exemplars of each stimulus type
  - 5 cat pictures, 5 meow sounds, etc.

Experimental design

Psychology Methodology Statistics

- Independent variables
  - Animal (cat, dog or capybara)
  - Sound (bark or meow)

→ 3 x 2 design

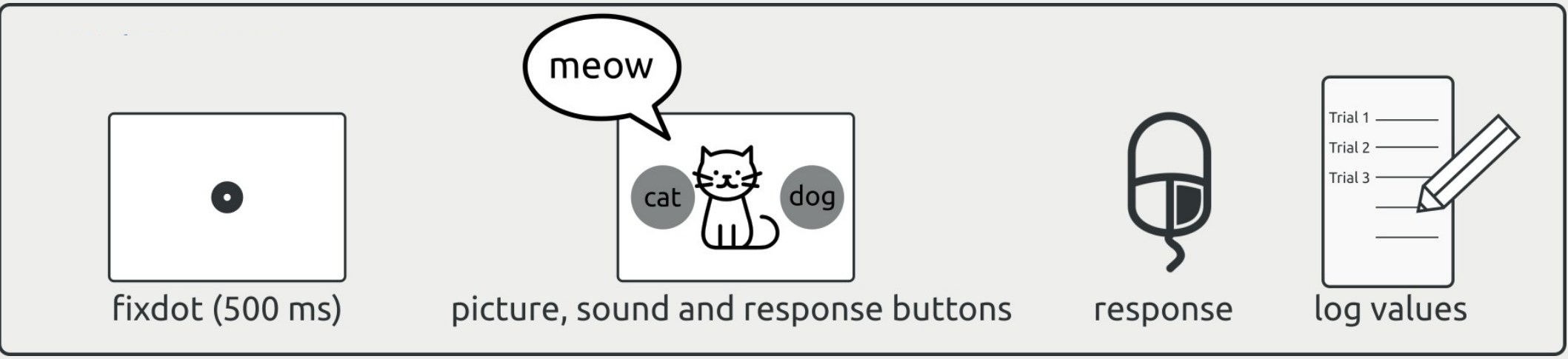
- But 5 exemplars of each stimulus type
  - Picture number (1,2,3, 4 or 5)
  - Sound number (1,2,3,4 or 5)

→ 3 x 2 x 5 x 5 design = 150 combinations!

Before programming

Psychology Methodology Statistics

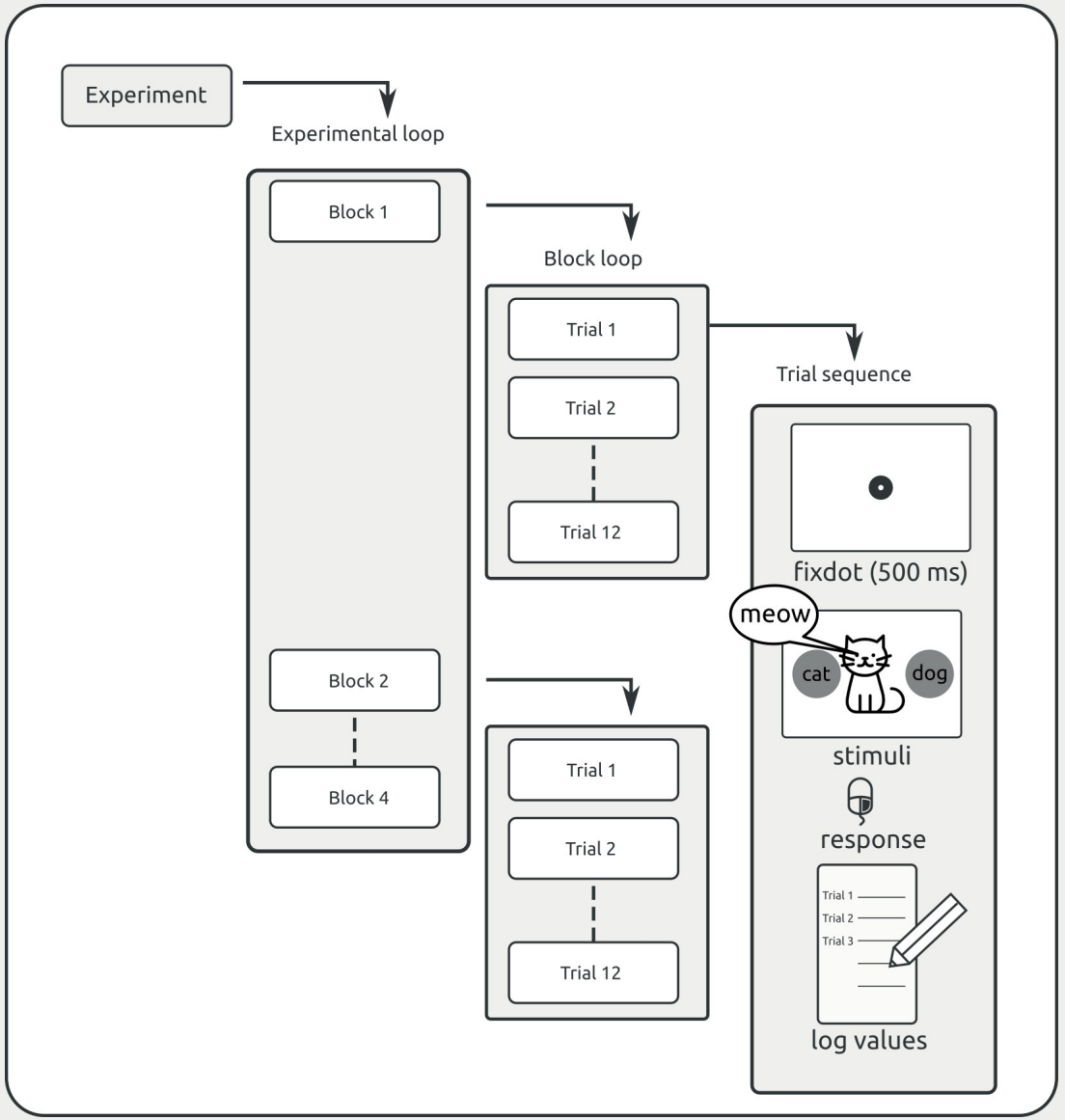
- Trial sequence



Before programming

Psychology Methodology Statistics

- Experimental hierarchy



Materials

Psychology Methodology Statistics

- Download animal stimuli
  - https://osdoc.cogsci.nl/3.3/attachments/cats-dogs-capybaras/stimuli.zip

Experimental design

Psychology Methodology Statistics

- Independent variables
  - Animal (cat, dog or capybara)
  - Sound (bark or meow)

→ 3 x 2 design

- But 5 exemplars of each stimulus type
  - Picture number (1,2,3, 4 or 5)
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Psychology Methodology Statistics

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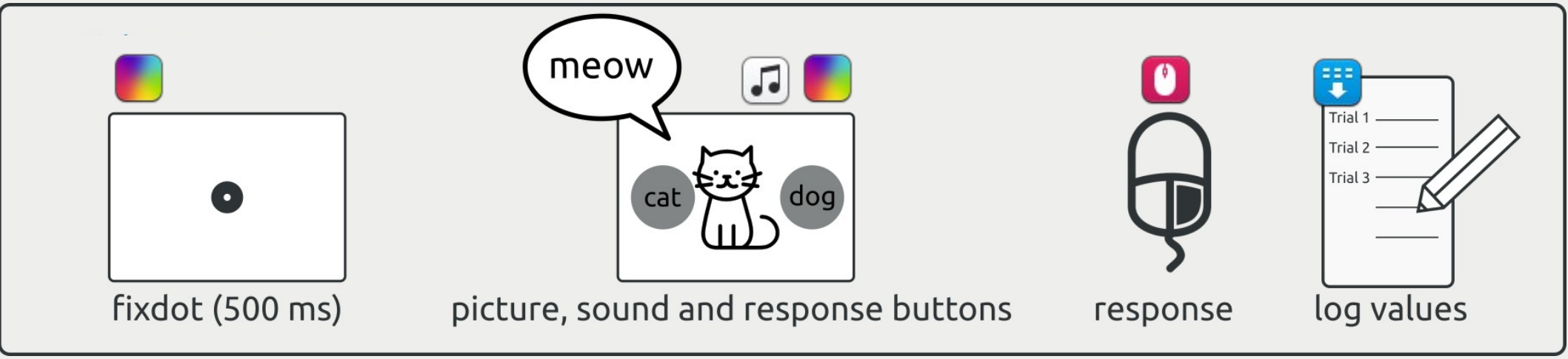

Psychology Methodology Statistics

Cats, dogs and capybaras

2.0

Extra assignments

- Some coding

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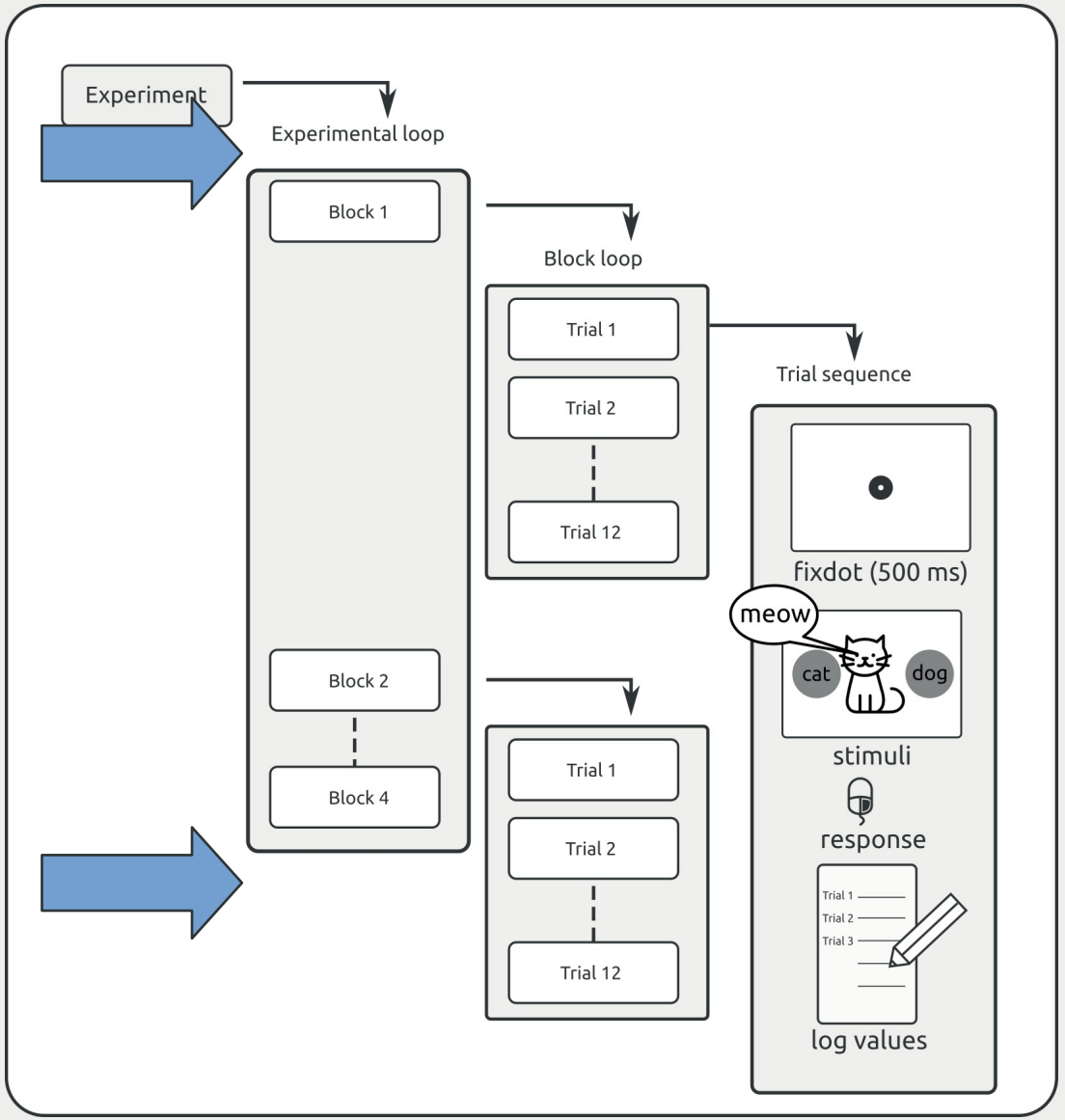
Extra assignments

Psychology Methodology Statistics

1. Talk to the participant
   - At consent form, instructions and goodbye
2. Counterbalance response rule
3. Determine response accuracy
4. Give feedback after every trial

Extra assignments

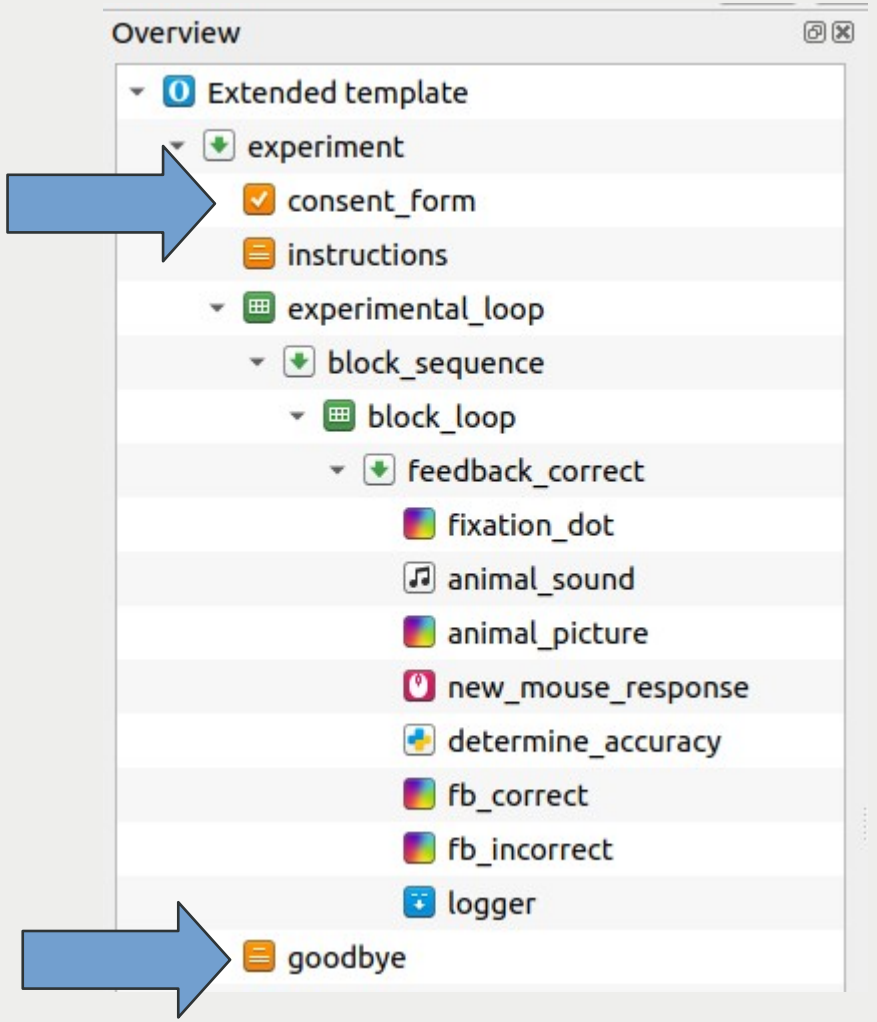
- Talk to the participant
  - Consent form
  - Instructions
  - Goodbye



Extra assignments

Psychology Methodology Statistics

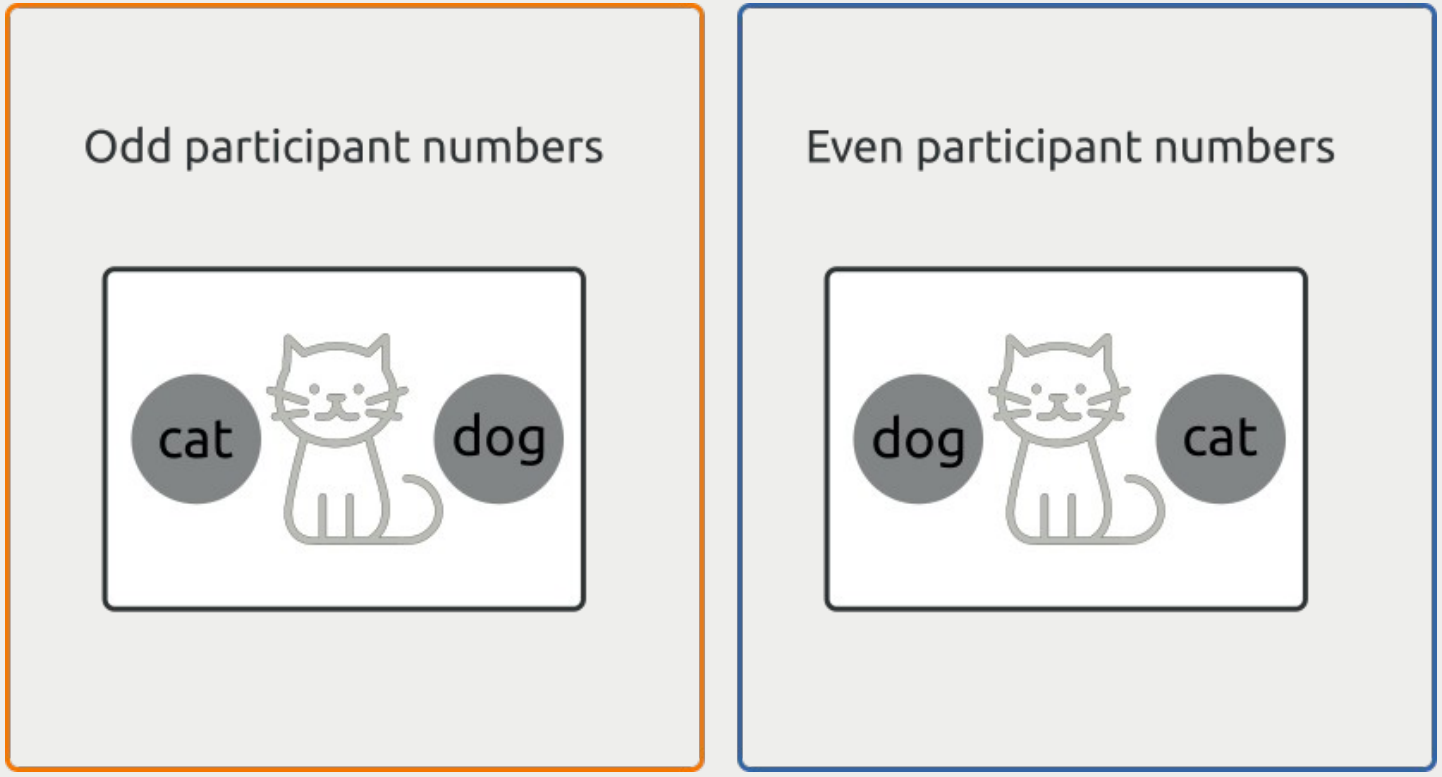
- Talk to the participant
  - Consent form
  - Instructions
  - Goodbye



Extra assignments

Psychology Methodology Statistics

- Counterbalance response rule
  - Vary the mapping between participants



Extra assignments

Psychology Methodology Statistics

- Counterbalance response rule
  - Use the built-in variable *subject_parity*

    → *“odd” or “even”*
  - Run-if statement

Extra assignments

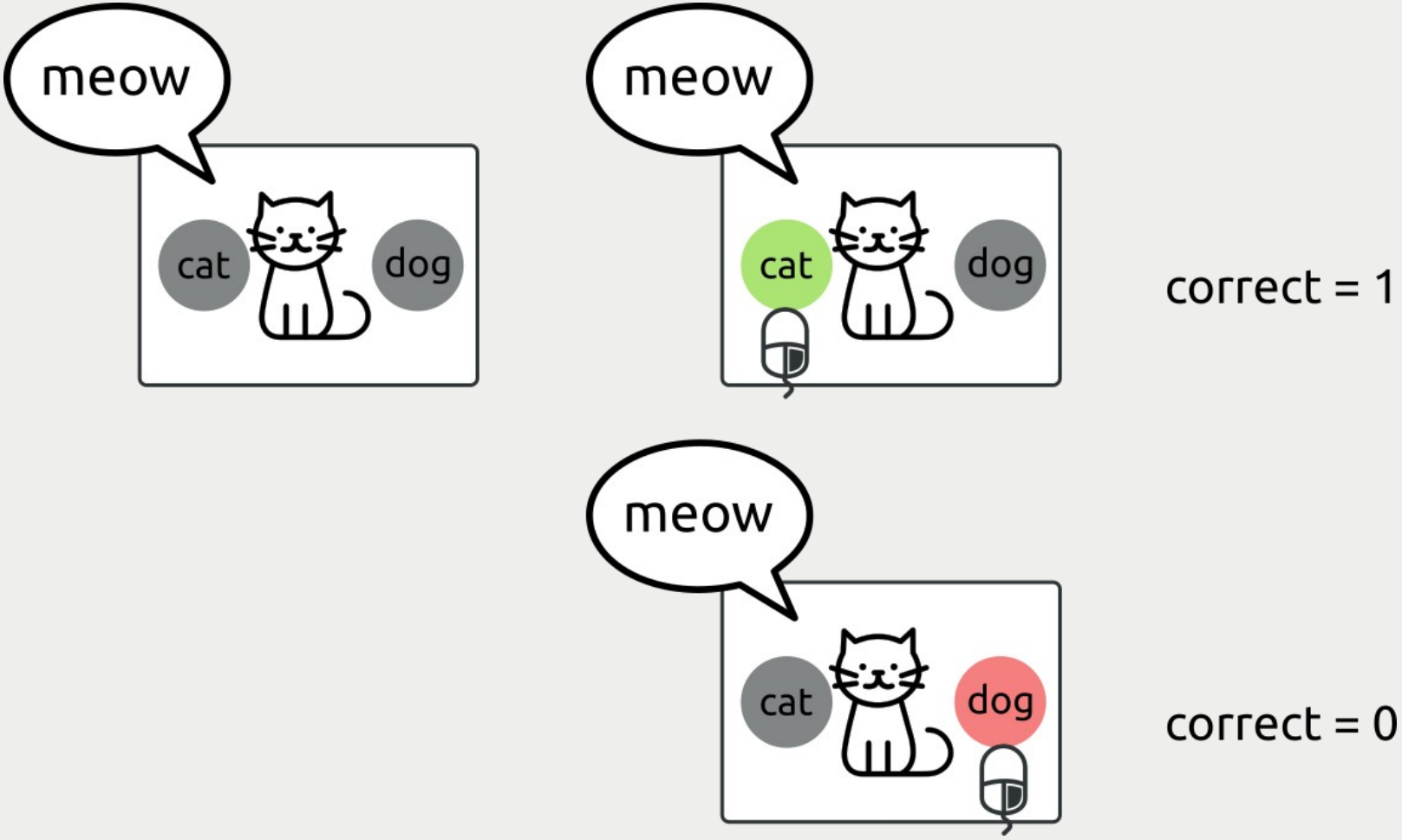
Psychology Methodology Statistics

- Response accuracy
  - Create a variable called *“correct”*
  - Use the built-in variable *“cursor_roi”*
    - **Region of interest** → which element was clicked
    - Give elements in sketchpad a **name**
    - **Link** sketchpad and mouse_response

Extra assignments

Psychology Methodology Statistics

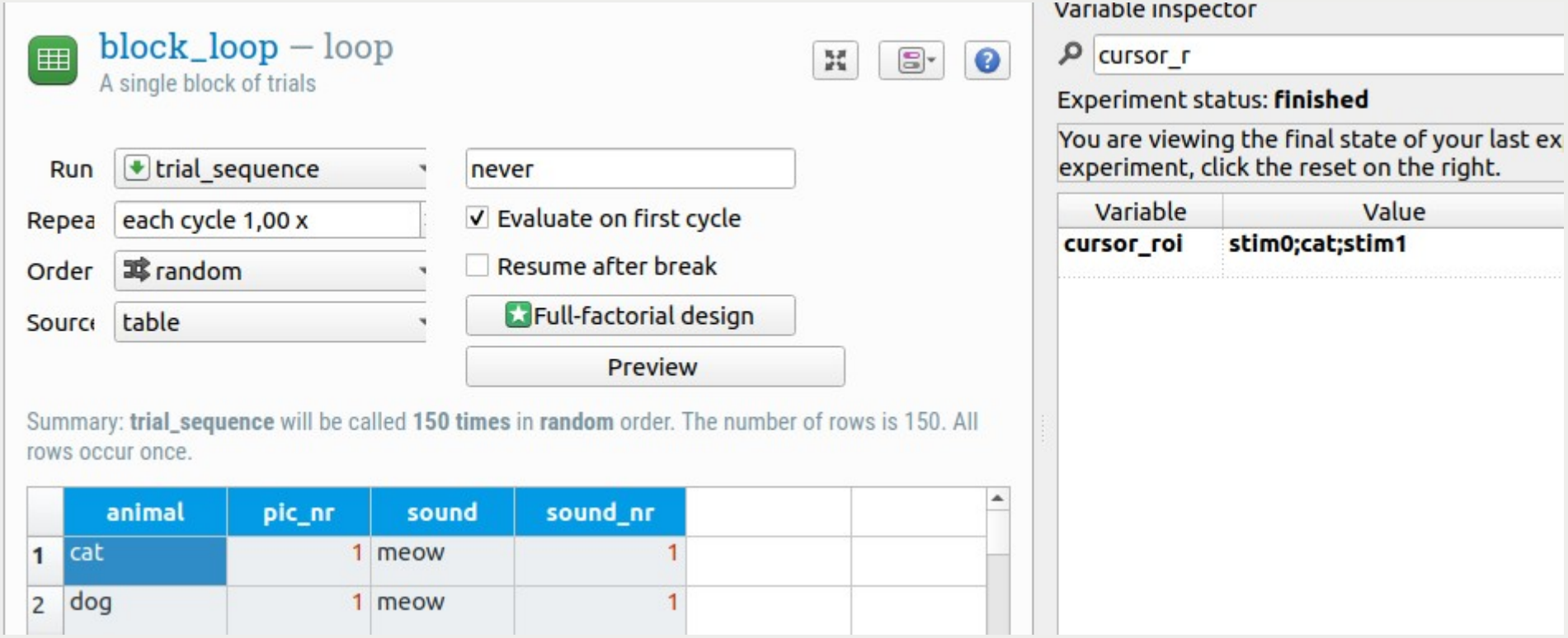
- When is a response correct?



Extra assignments

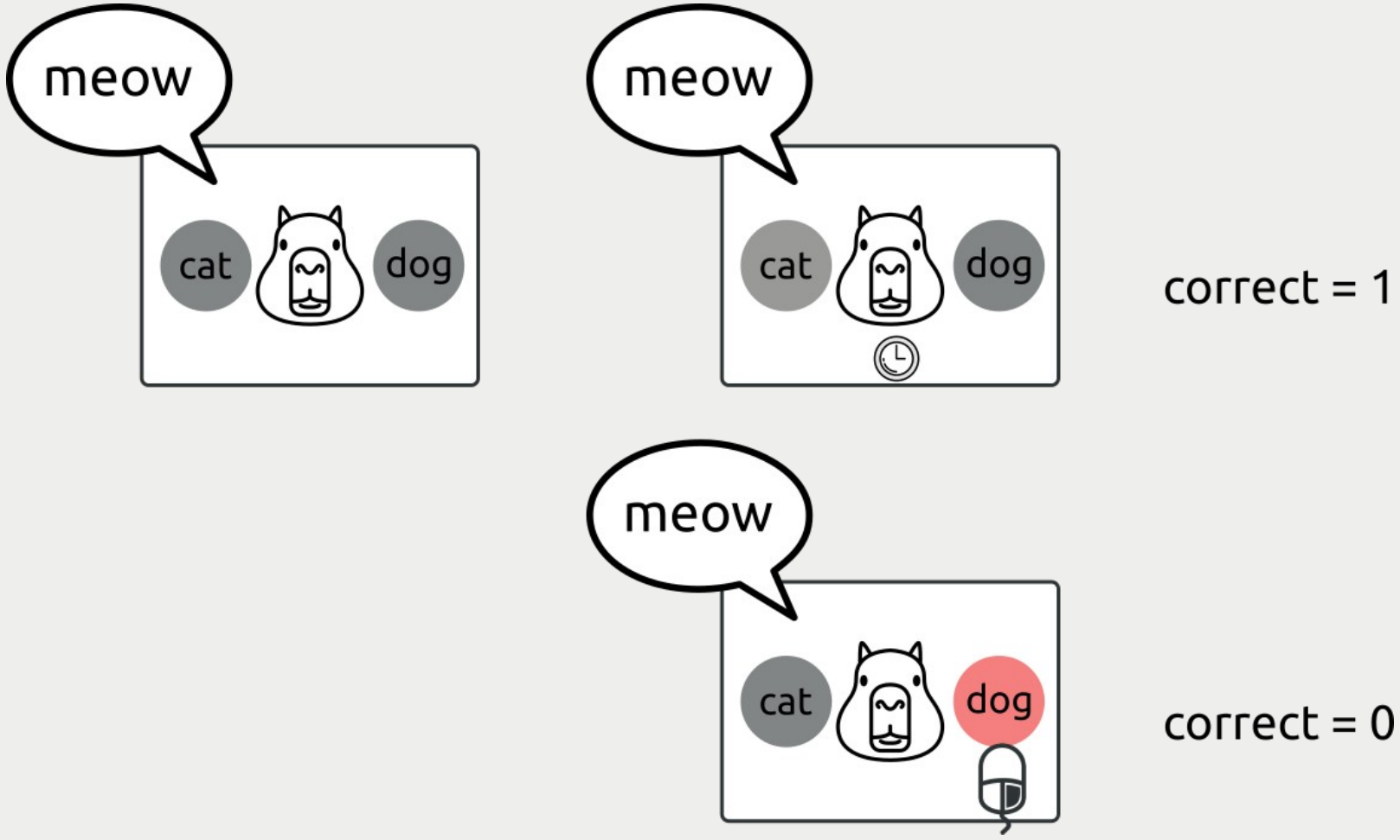
Psychology Methodology Statistics

- When is a response correct?
- In programming logic:



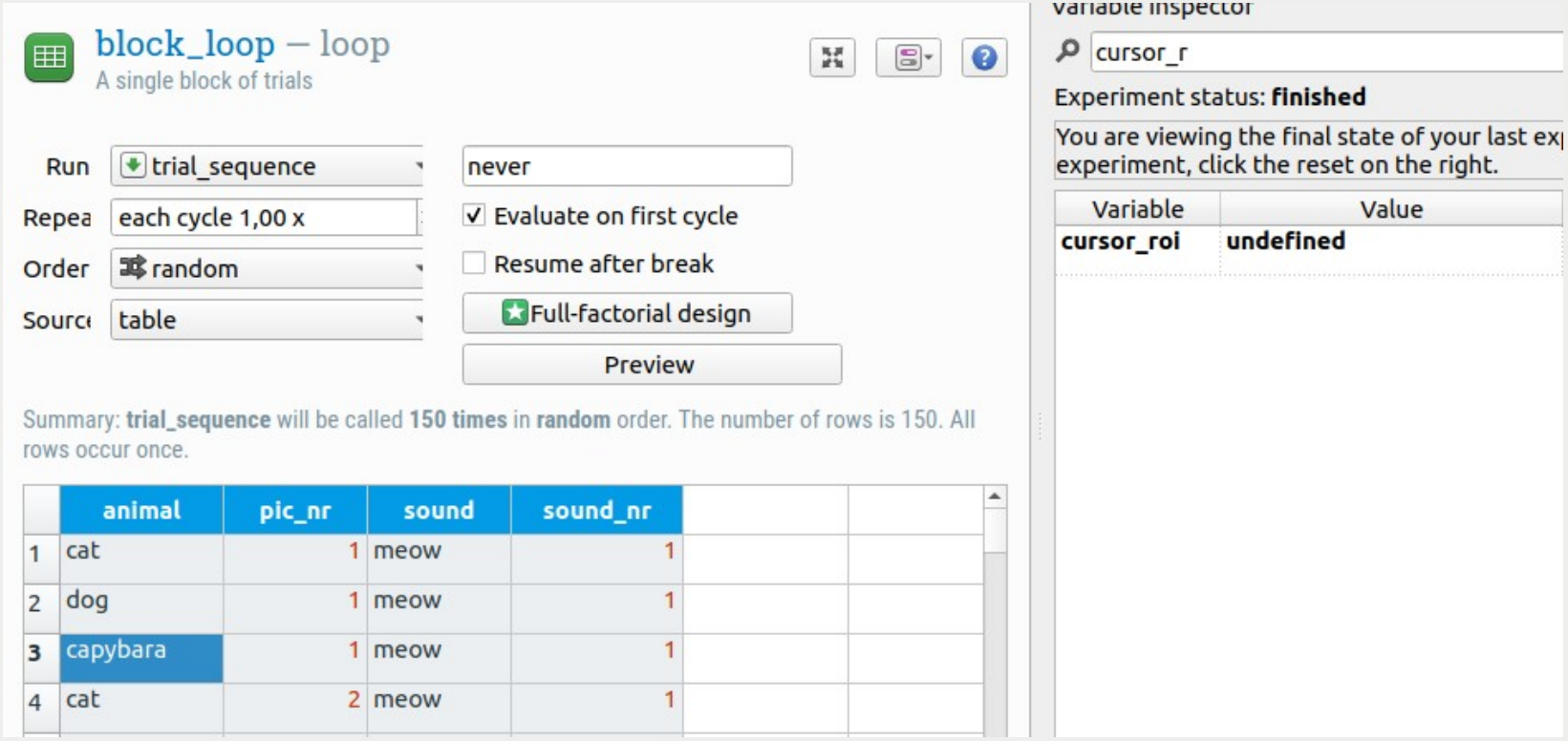
Extra assignments

- If the animal is a capybara?



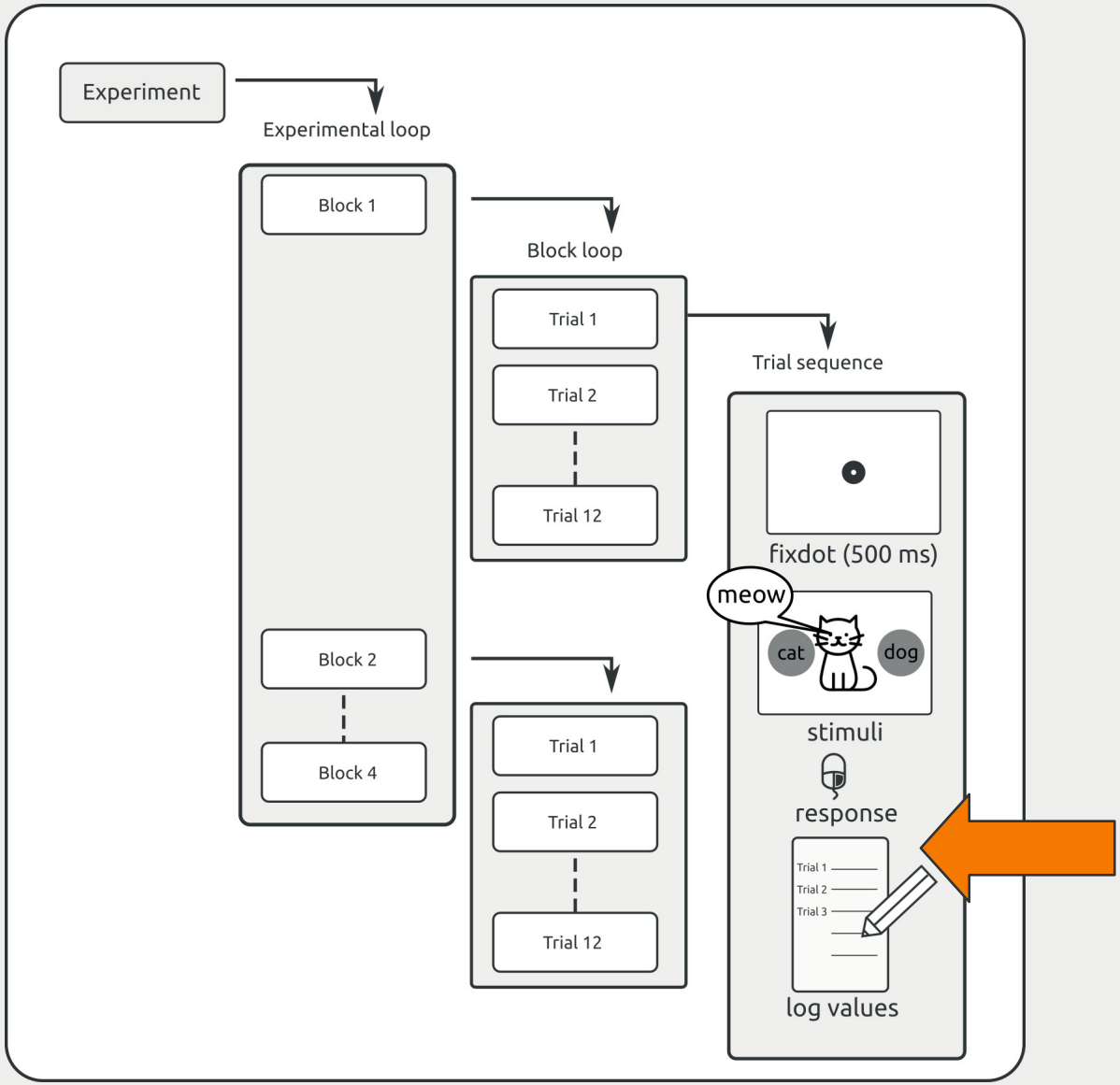
Extra assignments

- If the animal is a capybara?
- In programming logic:



Extra assignments

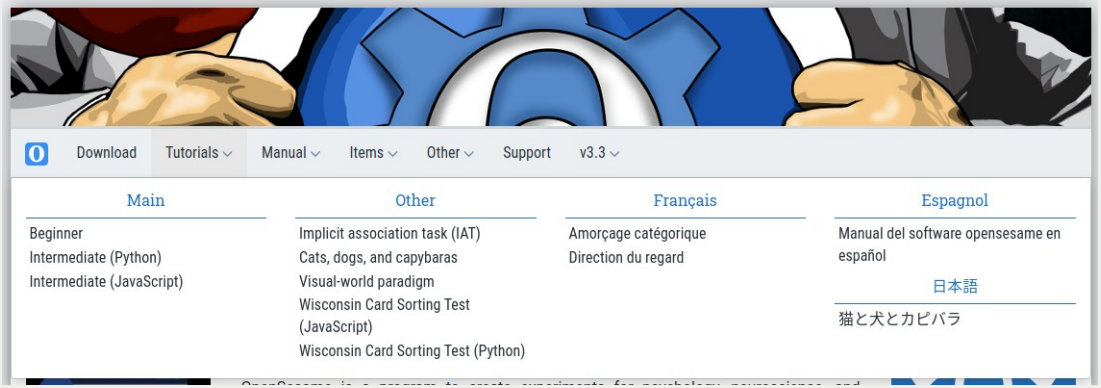
- Feedback after every trial
  - Run-if statements



Q&A

Psychology Methodology Statistics

- Three options
  - Continue working on additional assignments
  - Start a new tutorial



  - Work on your own research