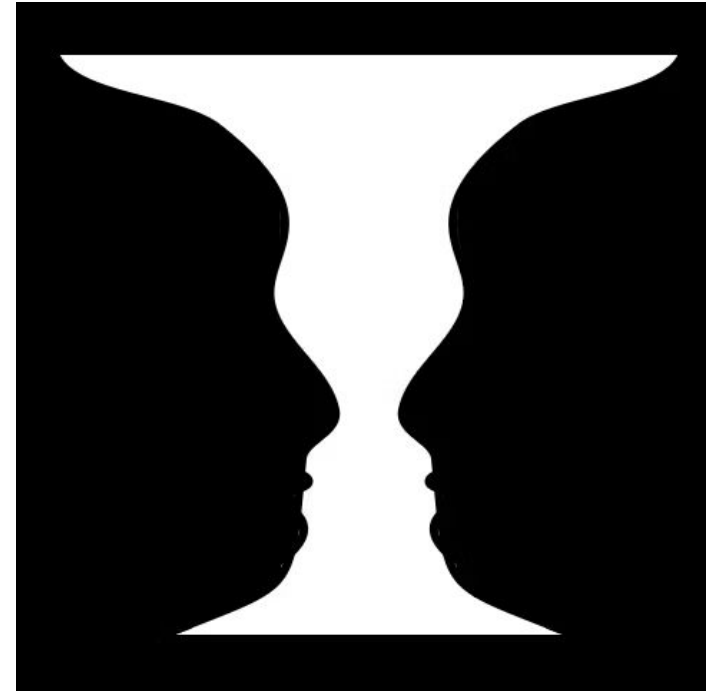




Q: Which Gestalt Principles is most applicable to this image?



iClicker



- A. Emergence
- B. Closure
- C. Common Region
- D. Continuity
- E. Multistability



CPSC 100

Computational Thinking

Gestalt Principles

Instructor: Parsa Rajabi
Department of Computer Science
University of British Columbia



Agenda

- Course Admin
- Learning Goals
- Visualization:
 - Gestalt Principles

I've packed you a bag...



Winter, it's time for you to leave!

Course Admin



Course Admin

- **PC Quiz 6**
 - Due Sunday, March 23, 11:59pm (*corrected from March 24*)
- **Lab 7 Infographic Critique**
 - Due Friday, March 21, 11:59pm
- **Project Milestone 3**
 - Due Friday, April 7, 11:59pm
- **Final Exam**
 - Tuesday, April 22, 7pm; Location: SWING 121



Learning Goals



Learning Goals

After this **today's lecture**, you should be able to:

- Understand, define, name **Gestalt Principles** and explain their role in visualization
- Use Gestalt Principles to **analyze infographics**, user interface designs, or website layouts.
- Compare and contrast Gestalt Principles by identifying situations where multiple principles overlap.
- Assess how well a given infographic or design follows (or do not follow) Gestalt Principles and provide recommendations for improvement.

Gestalt Principles



Gestalt Principles

- | | |
|----------------------------------|------------------------|
| 1. Emergence | 7. Figure/Ground |
| 2. Closure (Reification) | 8. Invariance |
| 3. Common Region | 9. Pragnanz |
| 4. Continuity or
Continuation | 10. Similarity |
| 5. Proximity | 11. Symmetry and Order |
| 6. Multistability | 12. Common Fate |



Monday's Focus

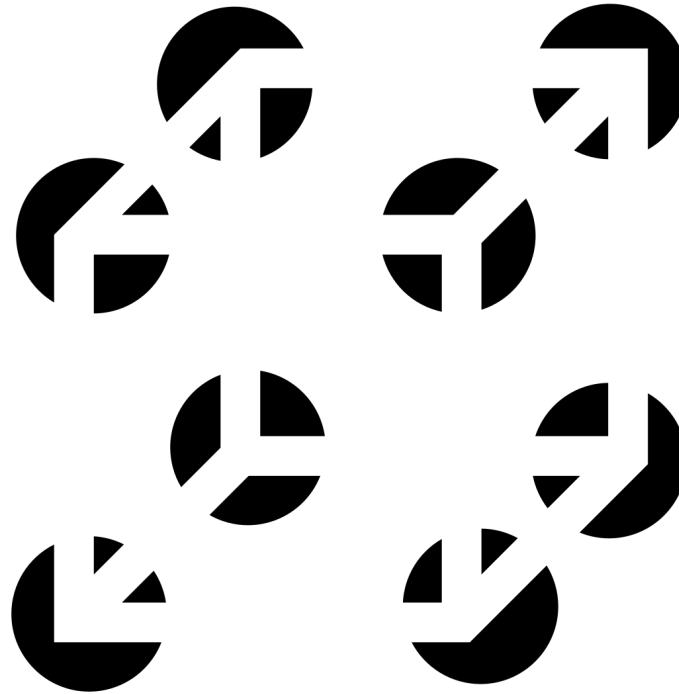
1. Emergence
2. Closure (Reification)
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4. Continuity or Continuation
5. Proximity
6. Multistability
7. Figure/Ground
8. Invariance
9. Pragnanz
10. Similarity
11. Symmetry and Order
12. Common Fate

Review

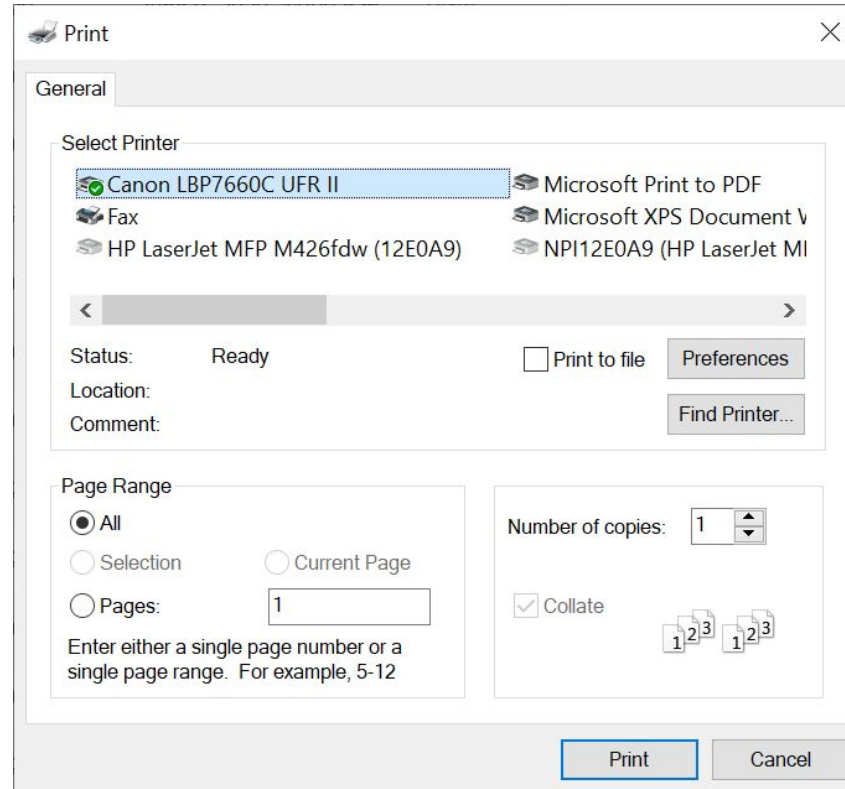
Gestalt Rule: **Emergence**



Gestalt Rule: **Closure**



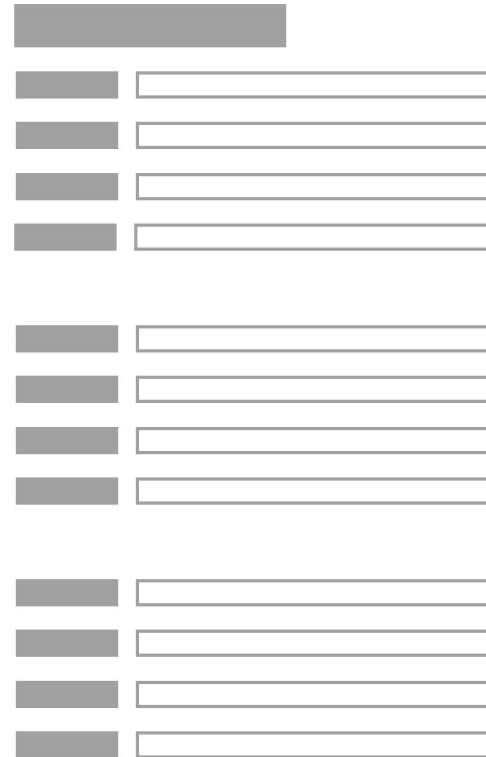
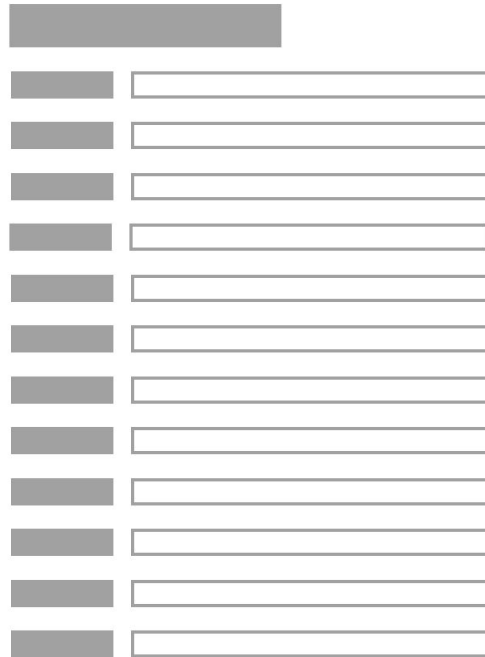
Gestalt Rule: **Common Region**



Gestalt Rule: **Continuity**



Gestalt Rule: **Proximity**



Gestalt Rule: **Multistability**





Today's Focus

1. Emergence
2. Closure (Reification)
3. Common Region
4. Continuity or Continuation
5. Proximity
6. Multistability
7. Figure/Ground
8. Invariance
9. Pragnanz
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12. Common Fate

Figure/Ground

Gestalt Rule: **Figure/Ground**



Rubin's Vase

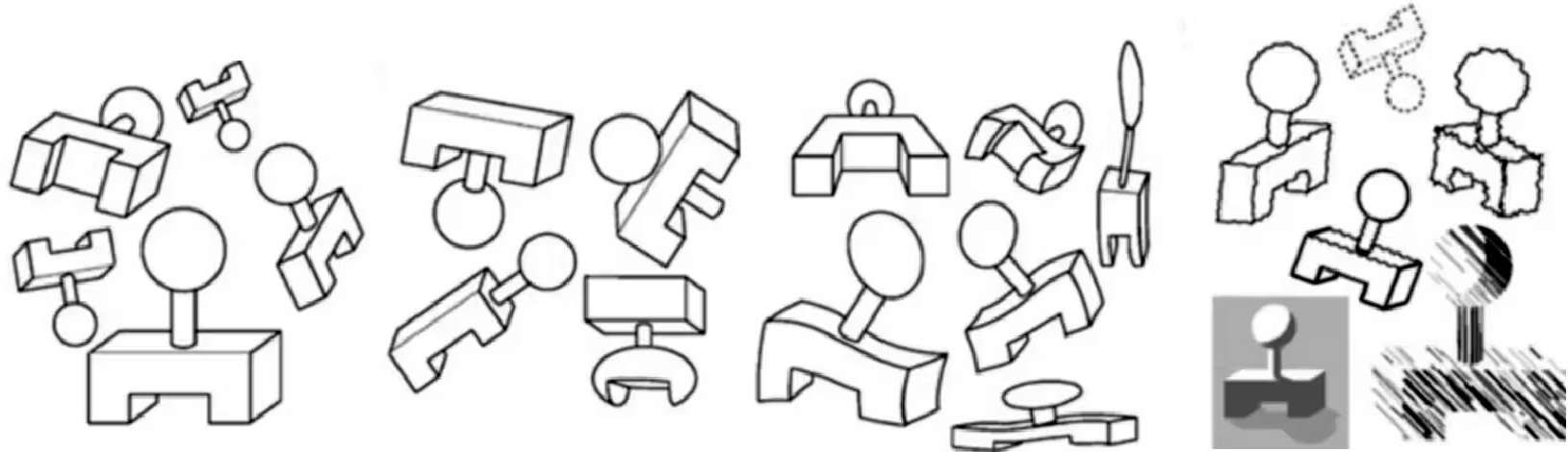


Figure/Ground

- We naturally separate visual elements into a “**figure**” (the main object) and a “**ground**” (the background). **Which element is figure can flip**, as in the vase-faces illusion.
 - Vital for understanding **how we pick out objects in a busy environment** (e.g., spotting a friend in a crowd).
 - Used in designs to create emphasis or visual interest. (e.g. infographics)
- E.g. When you read text on a page, the words are the figure and the white page is the ground. You focus on the figure (text) and let the ground (white background) fade away.

Invariance

Gestalt Rule: **Invariance**



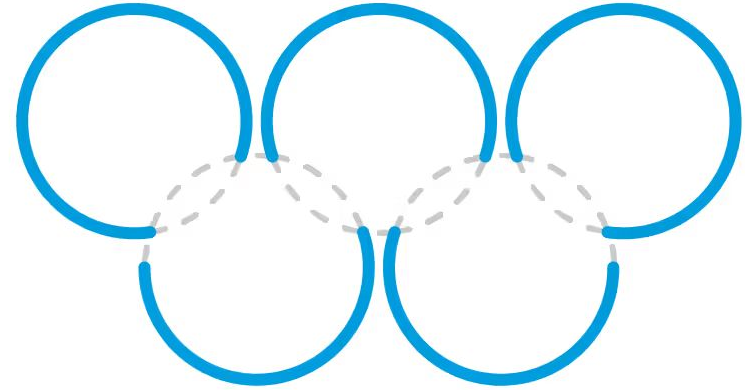
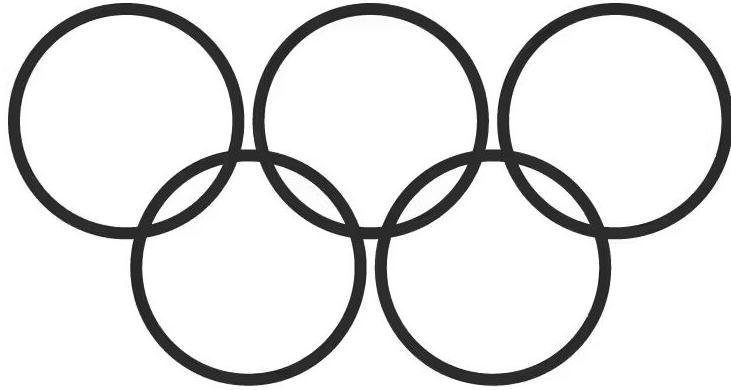


Invariance

- We can **recognize simple shapes regardless of rotation, scale, or slight distortions**. A circle is still seen as a circle even if it's tilted or partially covered.
 - Explains how we recognize letters in different fonts or everyday objects from various angles.
 - Helps us see objects as the “same” despite minor variations.
- E.g. Whether you see a coffee cup right-side up, upside-down, or at an angle, you still know it's a coffee cup. The shape and handle are recognizable enough.

Pragnanz

Gestalt Rule: **Pragnanz**

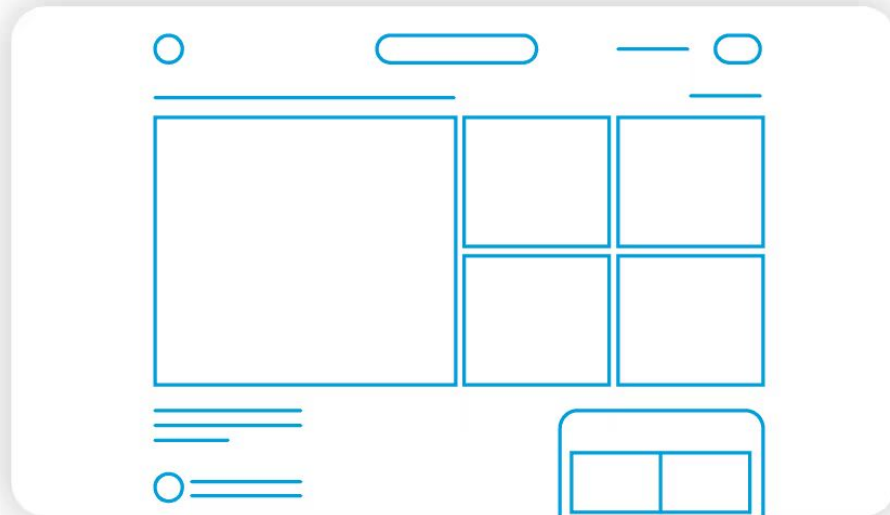
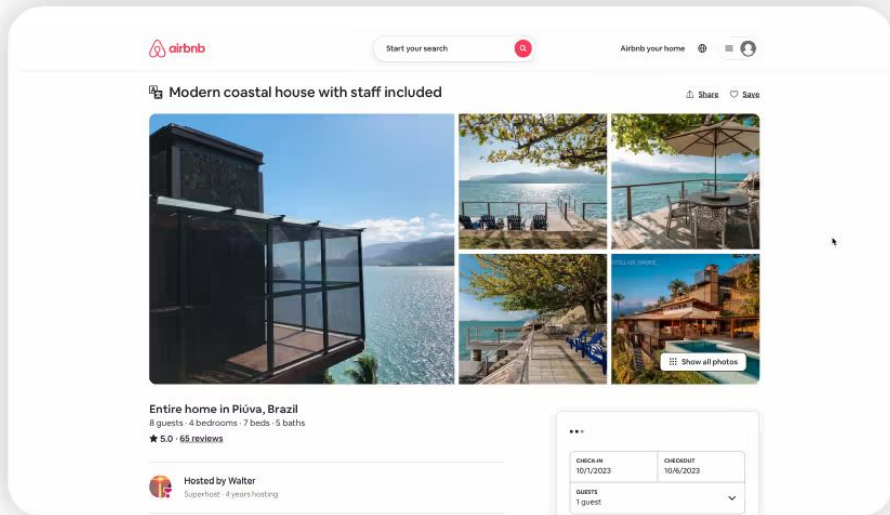




Pragnanz (German for “good figure”)

- We perceive/interpret visuals in the **simplest way possible**. Our brains automatically favor the **most stable, straightforward interpretation**.
 - Reflects our preference for symmetry, simple forms, & clear organization.
 - Guides designers to minimize visual complexity for easy understanding.
- E.g. Given a messy arrangement of coloured blocks on a table, your mind looks for basic shapes or clean lines first, rather than complex or “zigzag” patterns.

Pragnanz





Today's Focus

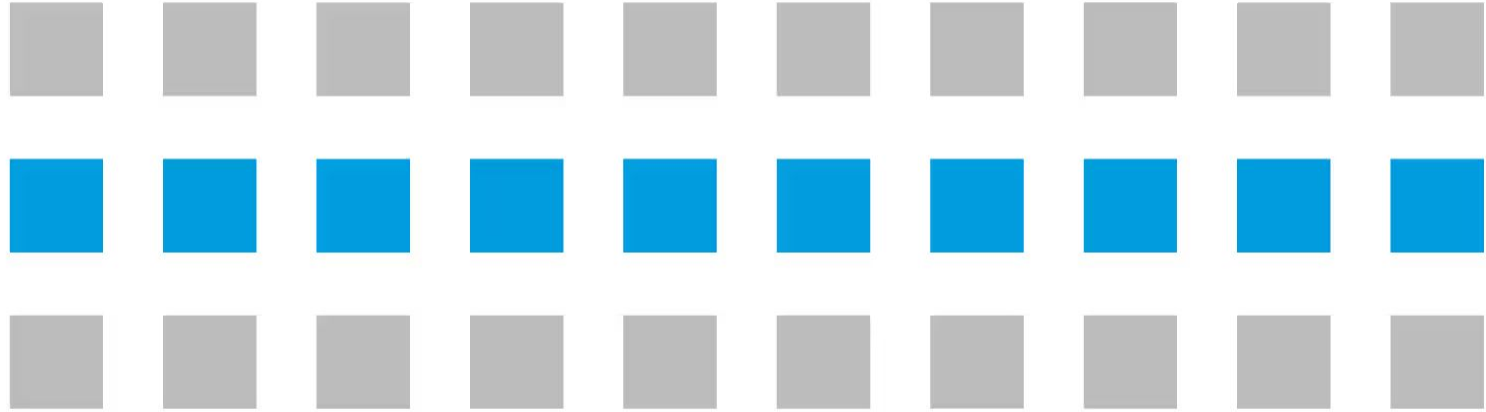
1. Emergence
2. Closure (Reification)
3. Common Region
4. Continuity or Continuation
5. Proximity
6. Multistability

- 7. Figure/Ground**
- 8. Invariance**
- 9. Pragnanz**
10. Similarity
11. Symmetry and Order
12. Common Fate



Similarity

Gestalt Rule: **Similarity**





Similarity

- Elements sharing **similar characteristics** (colour, shape, size) are **mentally grouped together**.
 - Enables quick categorization based on shared features.
 - Helps you pick out familiar faces or patterns in a crowd—people wearing similar uniforms, for instance.
- A set of matching red chairs in a conference room stands out as a single group, separate from any green chairs, even if they're all arranged together in one space.




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iPhone 16 Pro

Built for Apple Intelligence.

[Learn more](#) [Buy](#)

A side-profile view of an iPhone 16 Pro in a dark, metallic finish. The phone is positioned horizontally, with its three-camera system and flash visible on the left. Behind the phone, the word 'PRO' is rendered in large, glowing, white-outlined letters that appear to be floating or illuminated from within, creating a dramatic effect against the dark background.

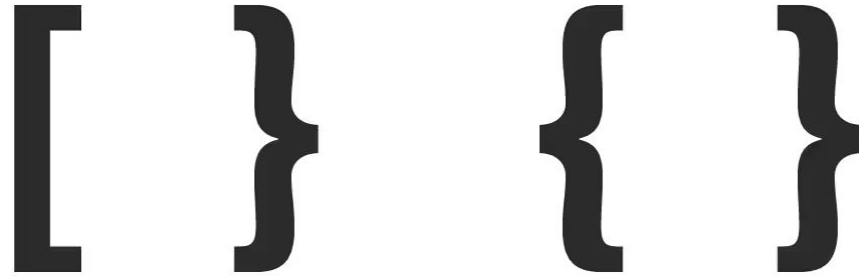
iPhone 16

Built for Apple Intelligence.

[Learn more](#) [Buy](#)



Symmetry and Order

Gestalt Rule: **Symmetry**





Symmetry and Order

- Symmetrical arrangements appear **more orderly & cohesive**. **Our brains love balance** & see symmetrical patterns as a unified whole.
 - Symmetry is often associated with beauty, harmony, and reliability.
 - Guides how we arrange items in a room or how we judge certain designs (e.g. infographics) to be aesthetically pleasing.
- A heart shape , mirrored from left to right, looks balanced and complete. You see it as a single symbol rather than two separate halves. 



Symmetry and Order

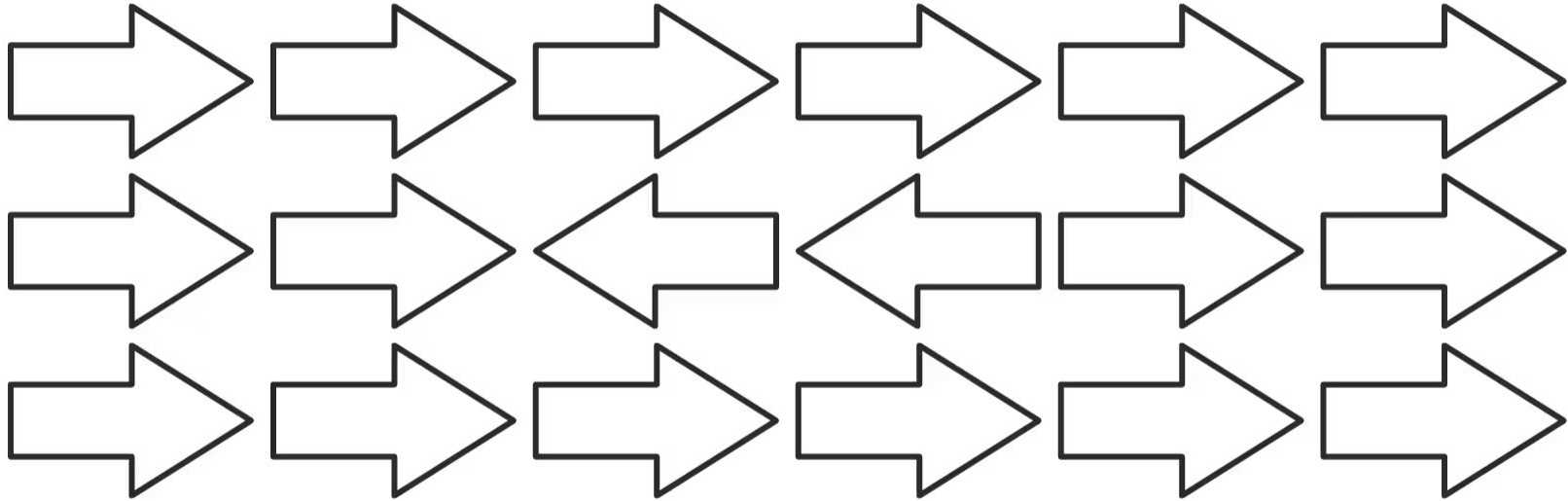
Google

Google Search

I'm Feeling Lucky

Common Fate

Gestalt Rule: **Common Fate**





Common Fate

- Elements moving in the **same direction** or showing the same change over time are perceived as **belonging together**.
 - Helps interpret motion and group dynamics in busy environments.
 - Applies to everything from following a parade to understanding traffic flows (people heading in the same direction are likely together).
- A flock of birds all heading south in formation is seen as a single group, even if they sometimes shift positions within that formation.



Common Fate

Questions related to Web Design

How to design a web page?



How much do web designers make?



How to become a web designer?



What does a web designer do?



Is web design coding?





Today's Focus

1. Emergence
2. Closure (Reification)
3. Common Region
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- 7. Figure/Ground**
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Q: Which Gestalt Principles is most applicable to this image?



- A. Figure/Ground
- B. Invariance
- C. Pragnanz
- D. Similarity
- E. Symmetry and Order

following finding

Type the two words:

following finding

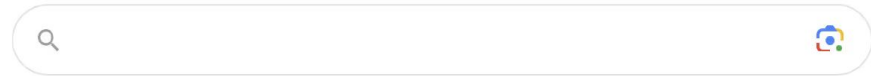
Send



Q: Which Gestalt Principles is most applicable to this image?



- A. Invariance
- B. Pragnanz
- C. Closure
- D. Symmetry and Order
- E. Common Fate



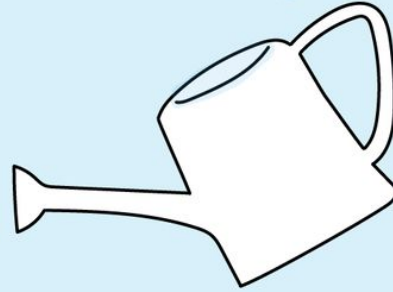
Google Search

I'm Feeling Lucky

TO BE ABLE TO
CARE FOR OTHERS



EMPATHY
GUIDANCE
KINDNESS



REST
SLEEP
ALONE TIME

YOU HAVE TO CARE
FOR YOURSELF

LIZ FOSSLIE



What was your main takeaway from today's session?



Wrap up



Wrap Up

- **PC Quiz 6**
 - Due Sunday, March 23, 11:59pm (*corrected from March 24*)
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