Instructions to Participate in Today's Session

To send your answers to today's questions, you can access Top Hat:

- As a guest

Or

- Registered User

1. If you want to participate as a guest **Mobile Instructions**

Scan the **QR Code**



Scroll down and select 'enter as guest'





Select 'continue to mobile site'



1. If you want to participate as a guest

Laptop/Tablet Instructions

Follow these instructions to access a temporary student account to participate today!

- On your device, navigate to a Private or Incognito Browser Window
- 2. Enter <u>https://app.tophat.com/e/170052</u>
- 3. Select 'Enter as Guest' on the right hand side of the screen
- You're in! Participate as a student in today's session

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Chrome

2. If you want enter as a registered user

- 1. Navigate to <u>app.tophat.com</u> or download and open the app
- 2. Enter University of Arizona as the school
- 3. Sign in with your Net ID
- 4. Search for class with the join code **170052** and start participating

Which topic is the less understood?



Problem	Description	Estimated time	Max Points
1	Plain English Algorithm	s 3 mins	8
2	Simulating code	4 mins	9
3	Write short instructions	10 mins	21
4	Find the final output	6 mins	12
5	Mouse movement	5 mins	12
6	Loops	17 mins	38
	TOTAL	45 mins	100

https://app.tophat.com/e/170052



Submit your assignment as you work on it

Friday	Read assignment and take notes during lecture				
Saturday and Sunday	Work on the assignment. Goal: at least half of the program. Submit to Gradescope				
Monday	Ask questions and go to office hours				
Tuesday	Work on the assignment. Goal: finish the program with some minor mistakes. Submit to Gradescope				
Wednesday	Ask questions				
Thursday	Fix minor errors and double check. Submit assignment to Gradescope				

Today

- Release Assignment 4
- Work with Laptops.
- Submit ICA on Gradescope <u>after answering every question</u> by **9:50** am.



CS 101 Old Style Animations using for loops



Moving across the fence

- What if we want to animate the fence?
- Make it look like a camera is moving along the fence



Theory of animation

Example: 2-frame animation

https://www.youtubeeducation.com/watch?v=lkouiEFAadM



Other example with more frames



https://www.youtube.com/watch?v=tPsytWOU25U

Question 1. Let's make more frames

 Download the fence_post.pde file from the course website <u>https://www2.cs.arizona.edu/classes/cs101/fall24/lectures/index.html</u> It's under the files for last lecture

- Change the file to draw what would be a second frame.
 <u>What did you change? Explain in plain English, do not submit</u> <u>code</u>
- 3. Upload your answers to Gradescope. Save and submit after ever question!

ICA

setup and draw Functions



The draw function paints new frames

```
To see how draw() works, run this example:
  void draw() {
     // Displays the frame count to the Console
     println("I'm drawing");
     println(frameCount);
You'll see the following:
  I'm drawing
   I'm drawing
   2
  I'm drawing
   3
   . . .
```

```
Example
from Chapter 5
```

Global Variables

```
int x = 280;
int y = -100;
int diameter = 380;
```

Runs one time at the beginning of the program

```
void setup() {
   size(480, 120);
   fill(102);
}
```

```
void draw() {
    background(204);
    ellipse(x, y, diameter, diameter);
```

Example from Chapter 5

```
int offset = 0; //displacement along the X-axis
void setup() {
  size(300, 200);
void draw() {
  background(200, 230, 255);
  strokeWeight(0);
  fill(100, 255, 100);
  rect(0, 140, 300, 100);
  strokeWeight(4);
  //paint fences
  for(int i = 0; i < 1001; i += 25) {</pre>
    line(offset + i, 50, offset + i, 150);
  line(0, 75, 300, 75);
  line(0, 125, 300, 125);
  offset = offset - 1; //to move all points to the left
```

Question 2. Audi !

Write a program that slides the Audi logo across the screen, like so:

