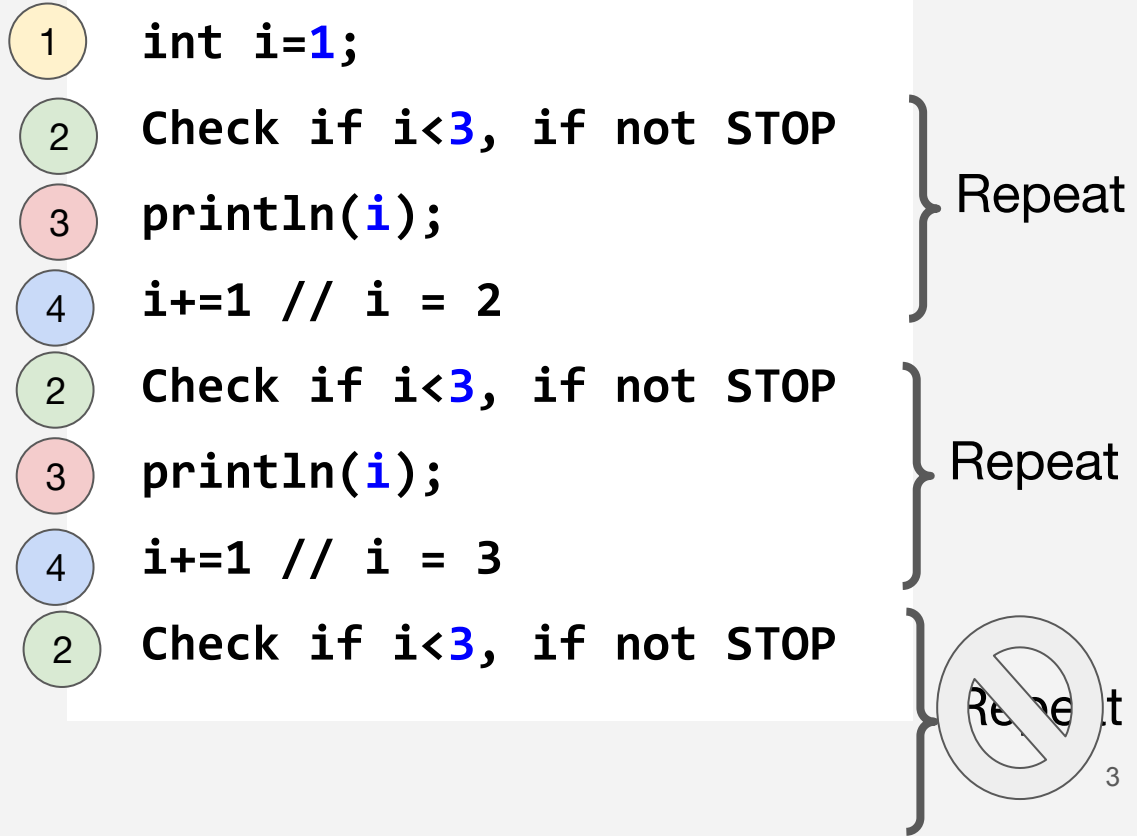
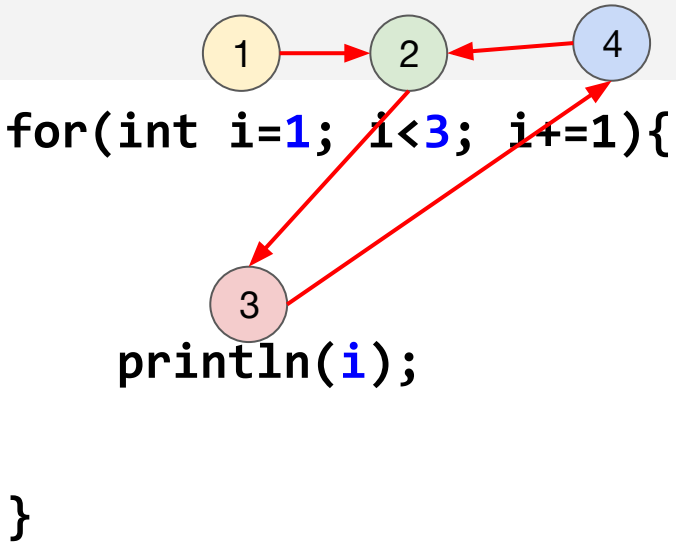


Today

- Ask me questions about PA5
- Review for loops and if statements

Review

For-loop Review: Equivalent Algorithm



Loop table

for (int i = 1 ; i <= 4 ; i = i + 1) {
 println(i);
}

iteration	Value i	Test?	Output
1st	1	true	1
2nd	2	true	2
3rd	3	true	3
4th	4	true	4
5th	5	false	

Loop table

```
for (int i = 1 ; i <= 4 ; i = i + 1) {  
    fill(i*10);  
}
```

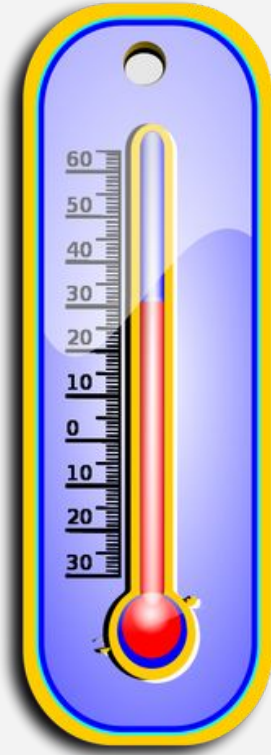
iteration	Value i	Test?	Function call
1st	1	true	fill(10);
2nd	2	true	fill(20);
3rd	3	true	fill(30);
4th	4	true	fill(40);
5th	5	false	

Please ask me questions

Temperature check

How are you feeling?

- A. Very confused
- B. Need a lot more practice
- C. Need a little more practice
- D. Just have a couple of questions
- E. Feeling good



Run the following code

```
void setup( ) {  
    size(500, 400);  
}  
  
void draw() {  
    background (255, 255, 255);  
    rect(mouseX, mouseY, 60,40);  
    line(0,height/2, width, 200);  
}
```

Think out loud

We have seen in the upcoming assignment that certain shapes (the cars) follow the mouse but are bounded by the canvas and the road (yellow lines). We will achieve that effect on this problem.

Let's assume that we want to limit the rectangle to stay above the horizontal line.

What technique would you use to prevent the rectangle from entering the bottom part of the canvas?

Question 1

Modify the code on Slide 7 so the rectangle follows the mouse but stays above the horizontal line.

Using if statements

ONE POSSIBLE SOLUTION

```
void setup( ) {  
  size(500, 400);  
}  
void draw() {  
  background (255, 255, 255);  
  line(0,height/2, width, 200);  
  if(mouseY<160){  
    rect(mouseX, mouseY, 60,40);  
  }  
  else {  
    rect(mouseX, 160, 60,40);  
  }  
}
```

Think out loud

If we want to restrict the rectangle to move only above the line, Which coordinates do we need to control?

Question 2

Modify the code on Slide 7 so the rectangle follows the mouse but stays above the horizontal line.

Using ratios

```
void setup( ) {  
    size(500, 400);  
}  
  
void draw() {  
    background (255, 255, 255);  
    rect(mouseX, mouseY/2, 60, 40);  
    line(0,height/2, width, 200);  
}
```

FOR POP QUIZZES

- No calculators
- No cell phones
- No laptops

- You can talk to your group :)
- Clear handwriting
- The NetID is not a list of numbers
- Go to DRC before we hand out the quiz

It's Quiz time!!

