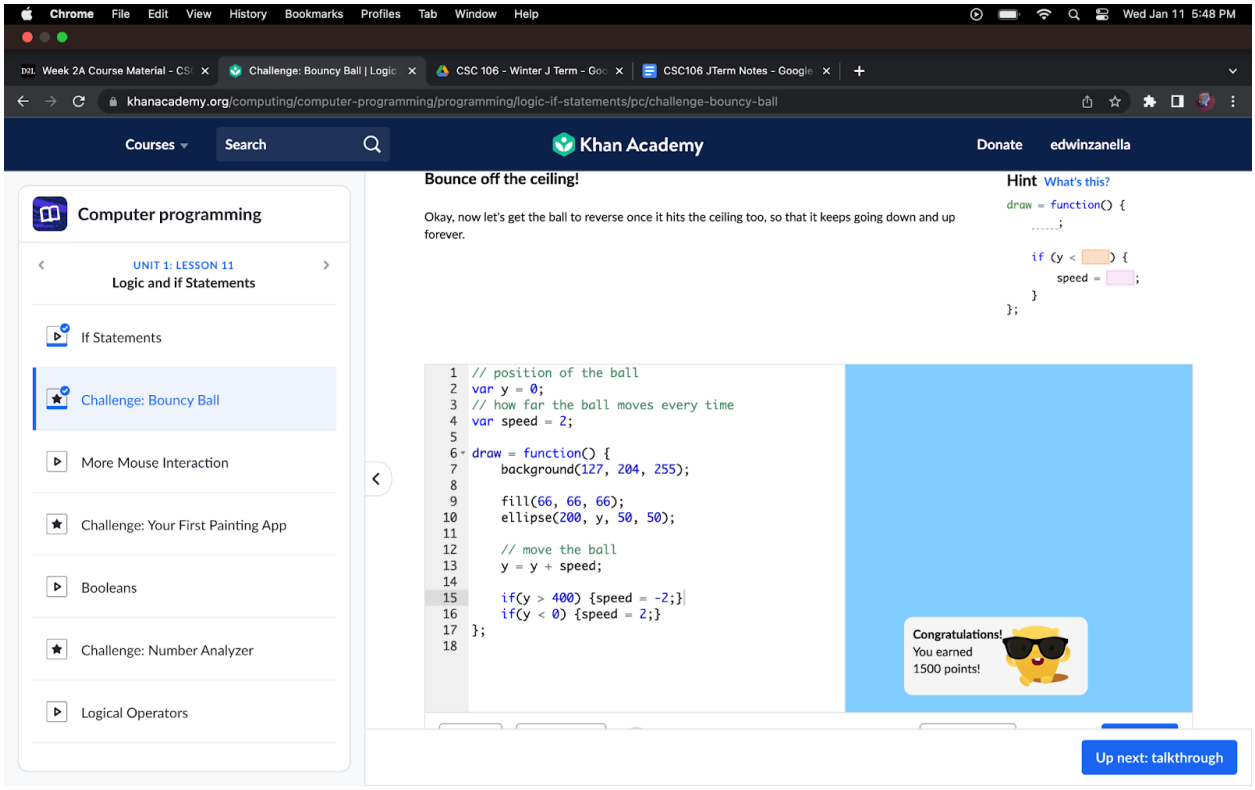
1.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Wed Jan 11 5:48 PM
Week 2A Course Material - CS
Challenge: Bouncy Ball | Logic
CSC 106 - Winter J Term - Goo
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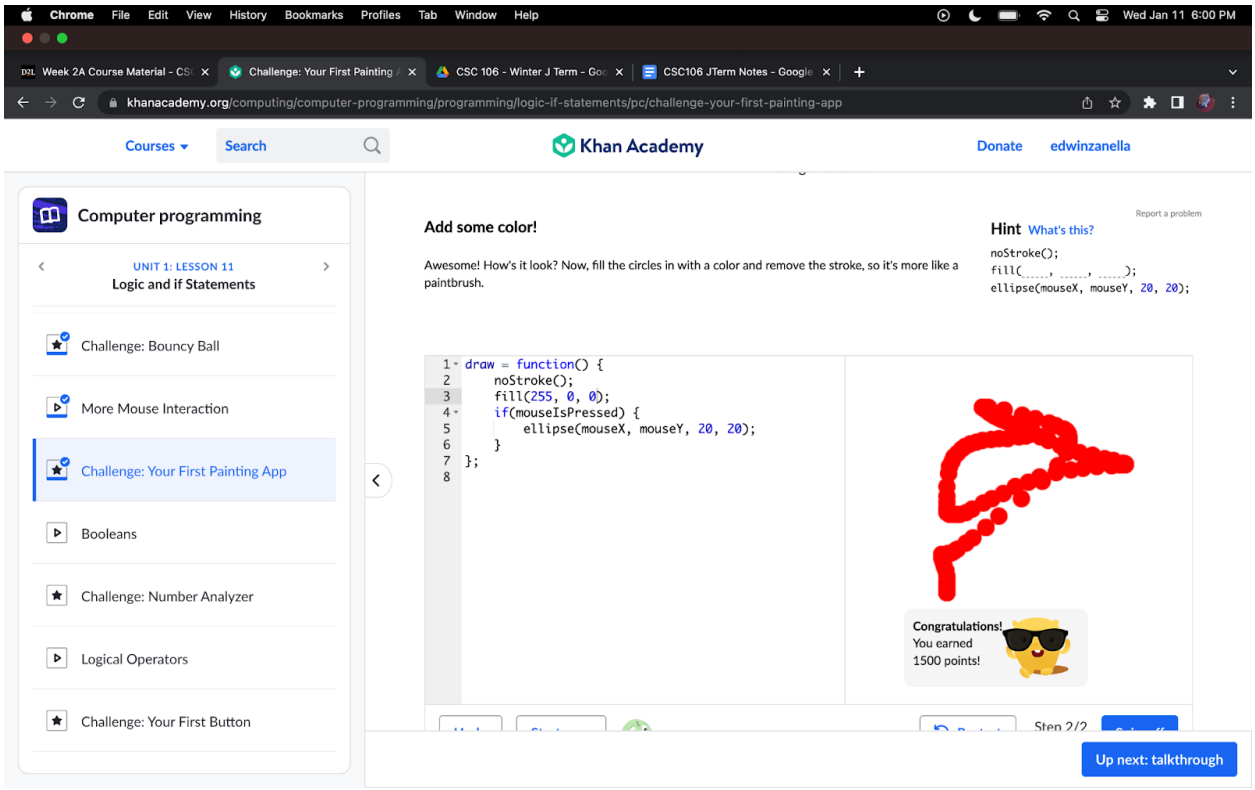
If Statements
Challenge: Bouncy Ball
More Mouse Interaction
Challenge: Your First Painting App
Booleans
Challenge: Number Analyzer
Logical Operators
Bounce off the ceiling!
Okay, now let's get the ball to reverse once it hits the ceiling too, so that it keeps going down and up forever.
Hint What's this?
draw = function() {
_____;
if (y < ____) {
speed = ____;
}
};
1 // position of the ball
2 var y = 0;
3 // how far the ball moves every time
4 var speed = 2;
5
6 draw = function() {
7 background(127, 204, 255);
8
9 fill(66, 66, 66);
10 ellipse(200, y, 50, 50);
11
12 // move the ball
13 y = y + speed;
14
15 if(y > 400) {speed = -2;}
16 if(y < 0) {speed = 2;}
17 };
18
Congratulations!
You earned
1500 points!
Up next: talkthrough

2.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Week 2A Course Material - CS
Challenge: Your First Painting
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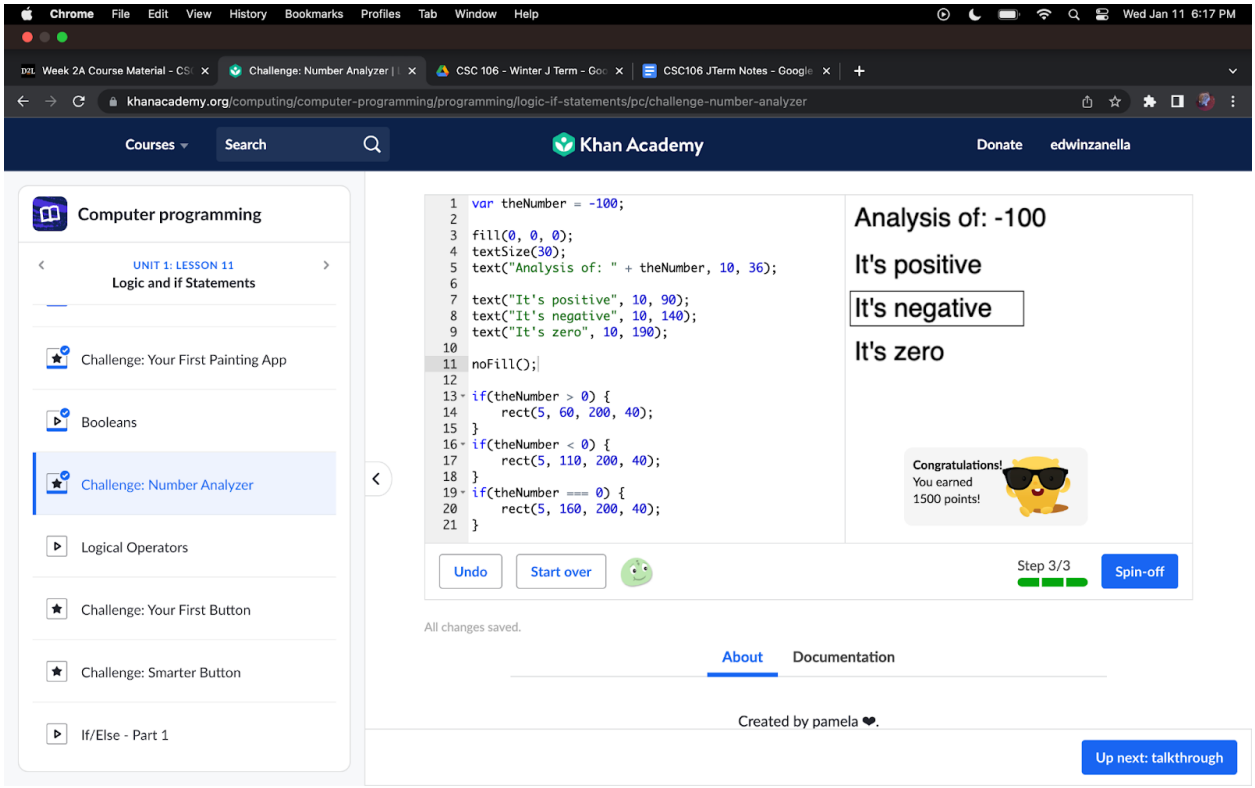
Challenge: Bouncy Ball
More Mouse Interaction
Challenge: Your First Painting App
Booleans
Challenge: Number Analyzer
Logical Operators
Challenge: Your First Button
Add some color!
Awesome! How's it look? Now, fill the circles in with a color and remove the stroke, so it's more like a paintbrush.
Report a problem
Hint What's this?
noStroke();
fill(____, ____, ____);
ellipse(mouseX, mouseY, 20, 20);
1 draw = function() {
2 noStroke();
3 fill(255, 0, 0);
4 if(mouseIsPressed) {
5 ellipse(mouseX, mouseY, 20, 20);
6 }
7 };
8
Congratulations!
You earned
1500 points!
Step 2/2
Up next: talkthrough

3.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Challenge: Number Analyzer
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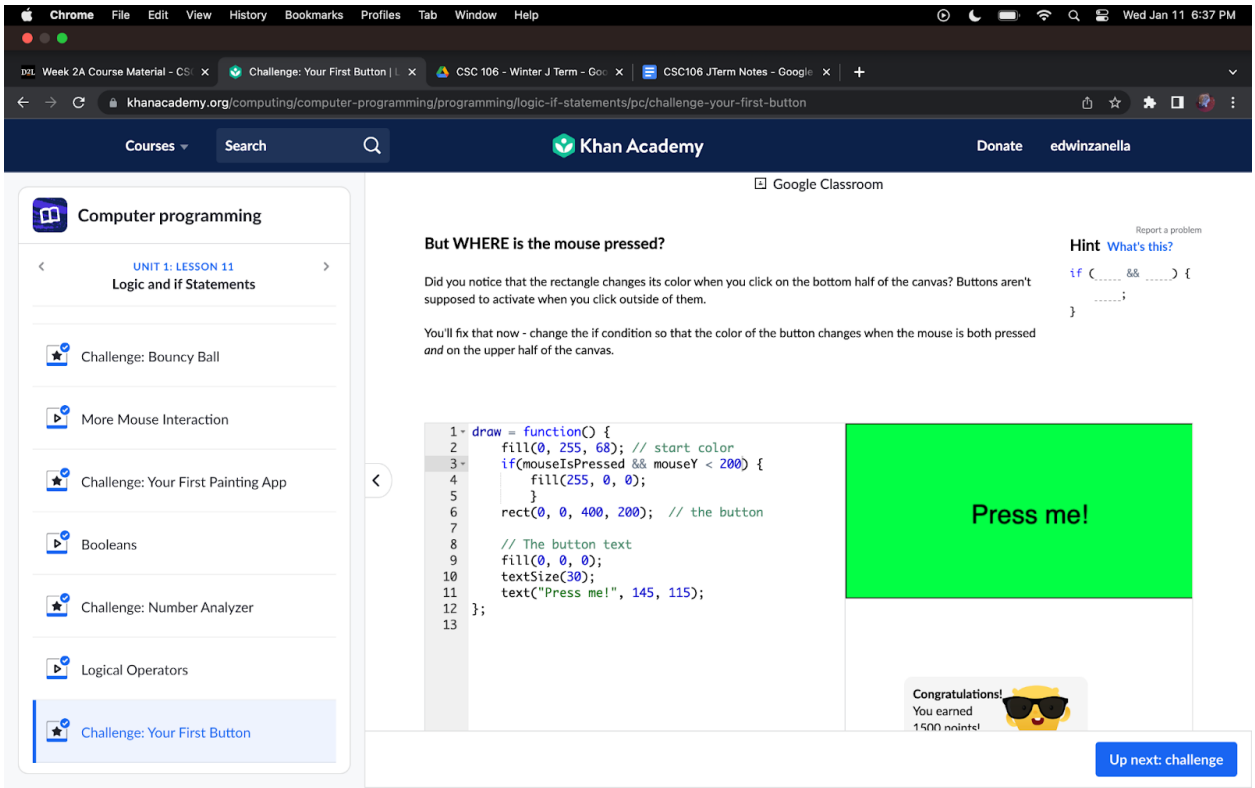
Challenge: Your First Painting App
Booleans
Challenge: Number Analyzer
Logical Operators
Challenge: Your First Button
Challenge: Smarter Button
If/Else - Part 1
var theNumber = -100;
fill(0, 0, 0);
textSize(30);
text("Analysis of: " + theNumber, 10, 36);
text("It's positive", 10, 90);
text("It's negative", 10, 140);
text("It's zero", 10, 190);
noFill();
if(theNumber > 0) {
rect(5, 60, 200, 40);
}
if(theNumber < 0) {
rect(5, 110, 200, 40);
}
if(theNumber === 0) {
rect(5, 160, 200, 40);
}
Analysis of: -100
It's positive
It's negative
It's zero
Congratulations!
You earned
1500 points!
Undo
Start over
Step 3/3
Spin-off
All changes saved.
About
Documentation
Created by pamela ❤.
Up next: talkthrough

4.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Wed Jan 11 6:37 PM
Challenge: Your First Button
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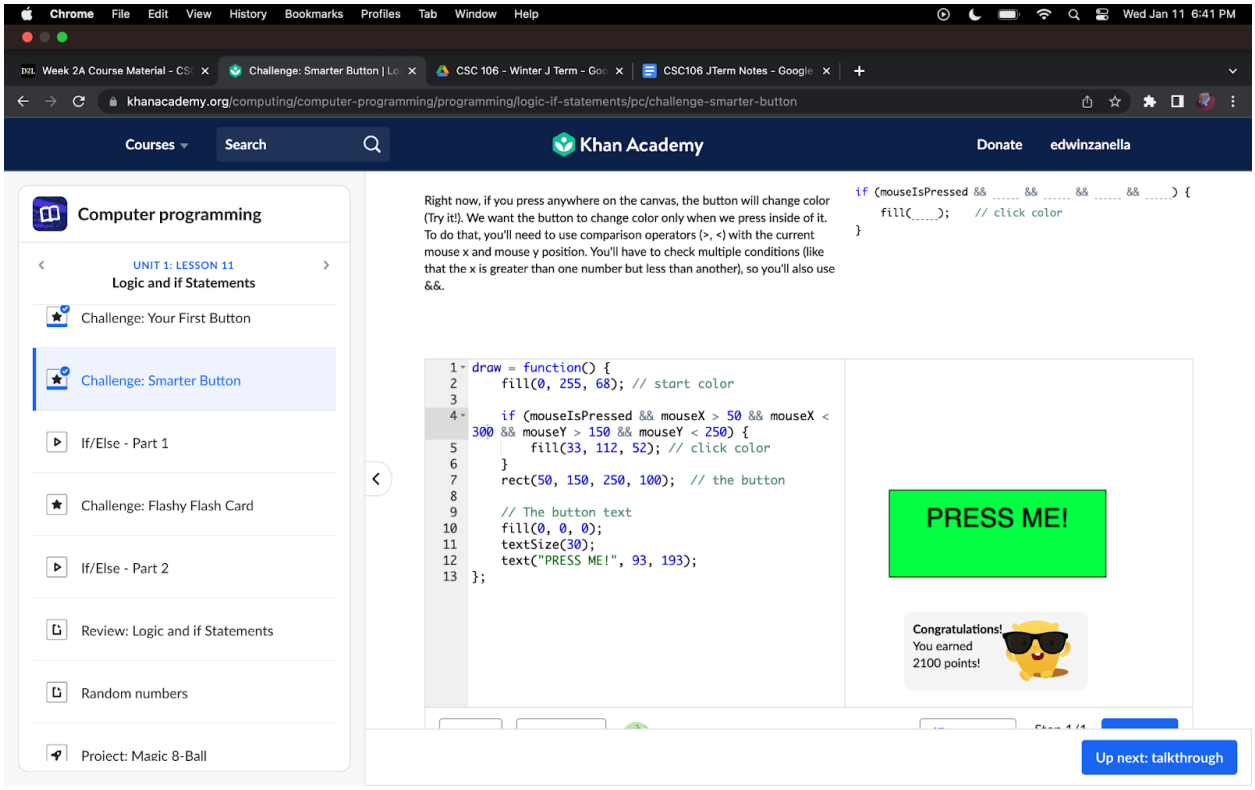
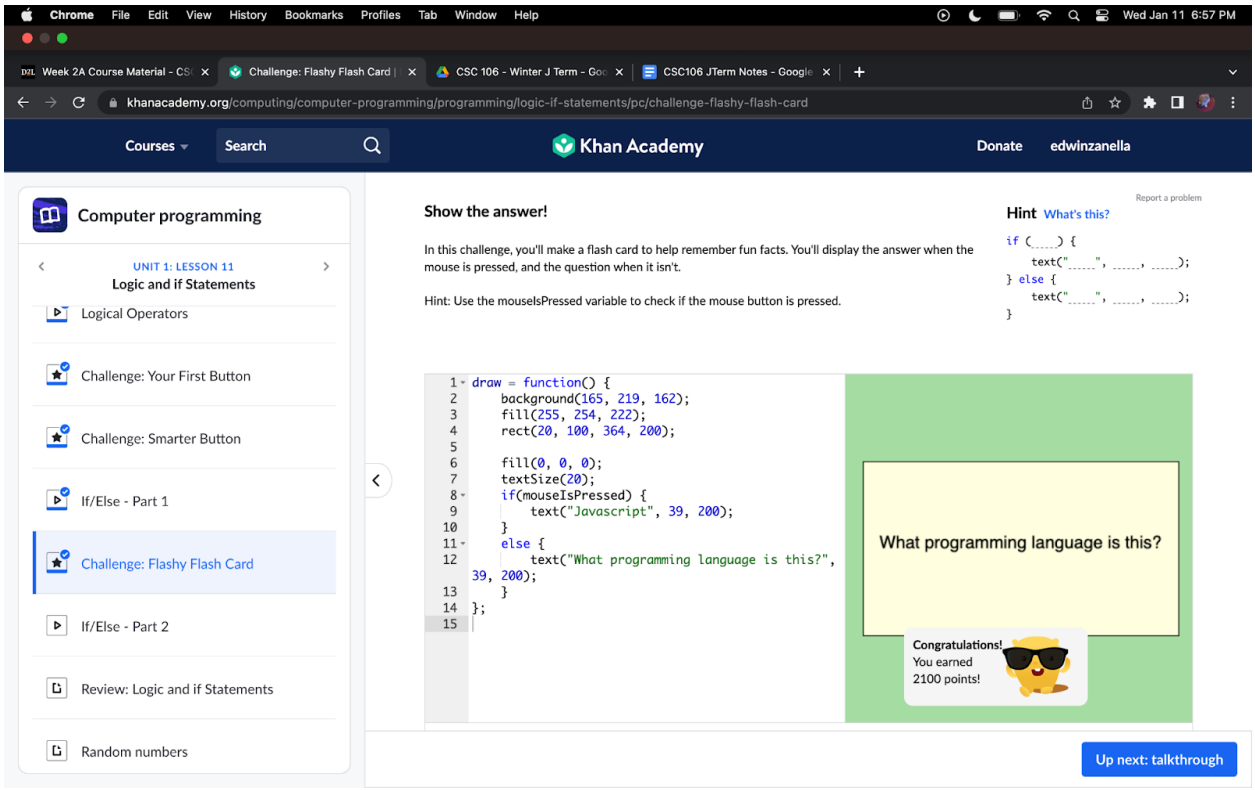
Challenge: Bouncy Ball
More Mouse Interaction
Challenge: Your First Painting App
Booleans
Challenge: Number Analyzer
Logical Operators
Challenge: Your First Button
But WHERE is the mouse pressed?
Did you notice that the rectangle changes its color when you click on the bottom half of the canvas? Buttons aren't supposed to activate when you click outside of them.
You'll fix that now - change the if condition so that the color of the button changes when the mouse is both pressed and on the upper half of the canvas.
Report a problem
Hint What's this?
if (____ && ____) {
____;
}
draw = function() {
fill(0, 255, 68); // start color
if(mouseIsPressed && mouseY < 200) {
fill(255, 0, 0);
}
rect(0, 0, 400, 200); // the button
// The button text
fill(0, 0, 0);
textSize(30);
text("Press me!", 145, 115);
};
Press me!
Congratulations!
You earned
1500 points!
Up next: challenge

5.



6.



Question 13: B

Question 14: A

Question 15: D

Question 16: D

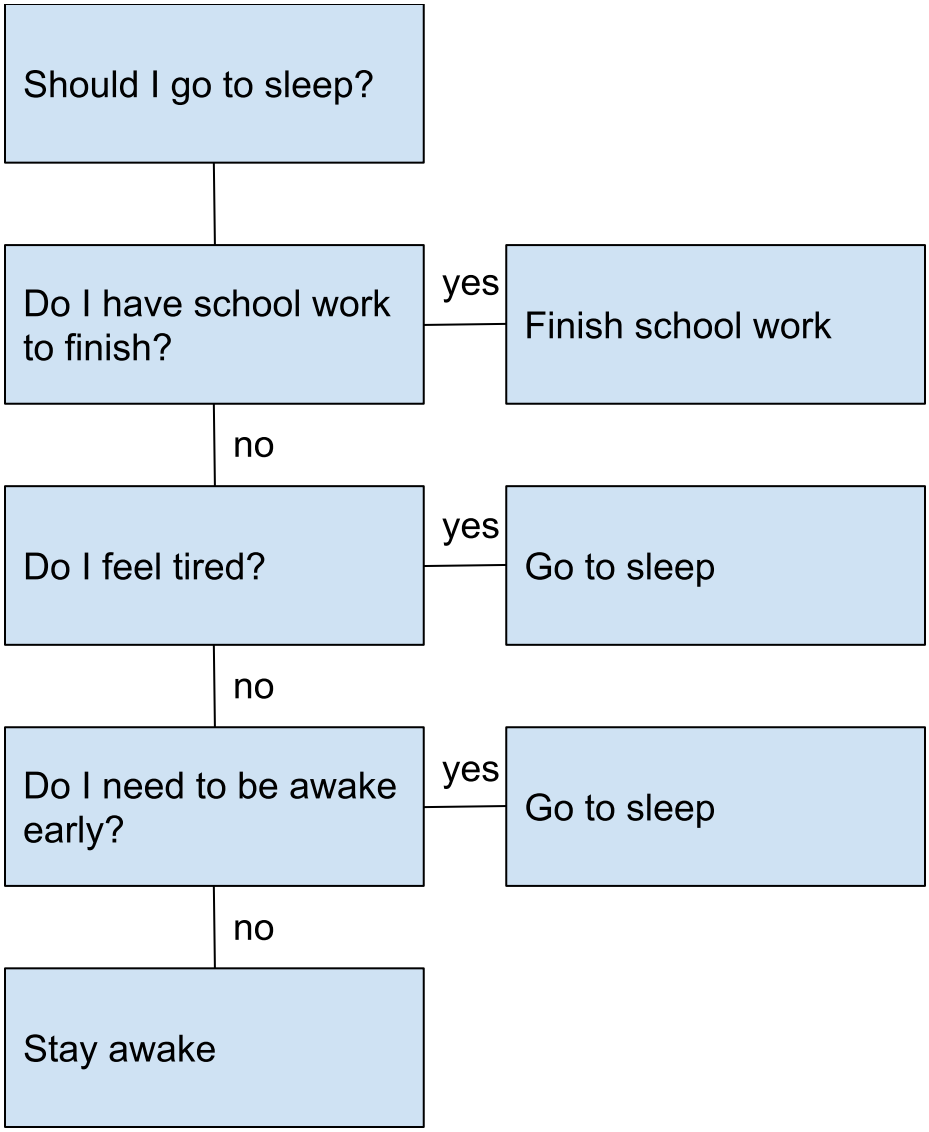
Question 17: B

Question 18: A

Question 19: B

Question 20: C

7. A decision tree could start off with a question such as, “Should I go to sleep?”. The tree can then go down to a question that asks, “Do I have school work to finish?” and then branch off to “Finish school work” if the answer is yes. If the answer is no, then it goes down to a question that asks “Do I feel tired?” and then branch off to “Go to sleep” if the answer is yes. If the answer is no, then it goes down to a question that asks, “Do I need to be awake early?”. If the answer is yes, then it goes to “Go to sleep”, if the answer is no, then it goes to “Stay awake”

8. 

9. https://www.khanacademy.org/computer-programming/hernandez-zanella_decision/4631839751061504

10. https://youtu.be/4618oyunH4c

11. https://www.khanacademy.org/computer-programming/hernandez-zanella_follow/4954058498818048

12. https://docs.google.com/document/d/1hbFmhHIxLGEEooj-I4qgJnQ-Pce19zezxy4FucUHMT4/edit