

In Class 10/13

- “when does each alternative occur?”
 - express when the alternative happens, not when it stops

what are the alternatives?	when does each alternative occur?
grow width	rect hasn't reached the edge of the window

the growth stops when the rect reaches the edge of the window – the rect grows when it *hasn't* reached the edge of the window

- “condition” is when the alternative occurs written as a boolean expression
 - not the alternative itself

what are the alternatives?	when does each alternative occur?	condition
reset	rect reaches the top/bottom of the window	rect height >= height

captures when the rect reaches the bottom of the window (which occurs at the same time it reaches the top of the window)

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- “when something reaches some point” should be generally be expressed as “when something reaches or passes some point” instead
 - time is not continuous in Processing, and the update of values from one frame to the next may jump from just before the target to just after

what are the alternatives?	when does each alternative occur?	condition
reset	rect reaches the top/bottom of the window	rect height >= height

captures when the rect reaches or passes the bottom of the window

rect height == height may never be true

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- write the condition to match the phrasing in words

what are the alternatives?	when does each alternative occur?	condition
draw rect	mouse is at least 100 pixels horizontally from the center of the window	mouseX <= width/2-100 mouseX >= width/2+100

“mouse is ...” → this compares mouseX to some quantity, so the expression should have (only) mouseX on the left side

mouseX+100 <= width/2 is logically equivalent to mouseX <= width/2-100 so it isn't wrong to write the condition that way, but it is harder to think about what it means and whether it is the correct condition

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- (especially) for complex conditions, label the picture to help work out the parts of the condition and how to combine them
 - draw the lines and arrows to define the region of “true” for each part of the expression

what are the alternatives?	when does each alternative occur?	condition
draw rect	mouse is at least 100 pixels horizontally from the center of the window	mouseX <= width/2-100 mouseX >= width/2+100

“mouse is ...” → compares mouseX to some quantity – identify those quantities and the desired relationship between them and mouseX in the picture

label “100 pixels horizontally from the center of the window”

identify which side of each line is “at least 100 pixels from”

being in either of the marked regions is fine – || rather than &&
mouseX <= width/2-100 && mouseX >= width/2+100

write the individual expressions:
mouseX <= width/2-100
mouseX >= width/2+100

