Memory Matching Challenge

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Game

- This game is a memory matching game
- The user can click on two cards at a time, making them turn over
- If they match, they will vanish
- If not, they both turn back over
- Try to match up all the cards in as few moves as possible!
To Add

• We have three methods we want to edit:
  • myFirstMethod
    – Move an element from the list cards up 2.4 meters
    – Set an element from the list nums to -1
  • Restart
    – Move all the cards to this.billboard
    – Reset the property gone to 0
  • initializeEventListeners
    – Turn a card .5 revolutions right when it is clicked on
    – Update number of tries, change the text to reflect it
    – Run the restart procedure when restart button is clicked
• The comments in the code will tell you where your additional code should go
• Make sure that anything you add goes directly under the corresponding comment
• The code has to be in the right order to work
Go to myFirstMethod

- We have generated a random number, which is called *random*
- We want to move the random-th billboard in the list *cards* UP 2.4 meters
- It should look like the UP and LEFT move statements in the following do in order block
• Then we want to set the random-th number in the list \textit{nums} to -1 so we never move the same card twice (use the assign block)
• This should look like the assignment statement in the following do in order block
Go to restart

• Look for the do together block with the comment
• We want to use the local variable $card2$ to move all of the items in the list $cards$ to this.billboard
• The each in ___ together block uses $card2$ to represent one item in the list $cards$
• If you perform an action on $card2$, Alice will perform that action on all the items in $cards$
• We need to reset all of our variables so we can restart the game
• The variable *gone* holds the number of successful matched cards, so we can know when the game is over
• We want to reset *gone* to 0, so the score is reset to 0
  – *Gone* is a property of the scene
Go to initializeEventListeners

• First, some definitions:
  • \textit{cardsTurned} is the number of cards that have been turned over
  • \textit{Board1} is a property that stores the value of the first card clicked, so that when the second card is clicked we know what the first one was
  • \textit{win} is a boolean property that holds the value of whether or not the user has won (since we don’t want them to turn over cards if they’ve already won)
  • \textit{getModelAtMouseLocation} stores the value of whatever was just clicked on
Go to initializeEventListeners

• First, we will edit the first addMouseClickOnObjectListener block, which is for the cards
• We want to put a statement where the comment is to turn the card the user clicks RIGHT .5 revolutions
  – Remember– what variable holds the value of whatever was just clicked on?
• At the end of the “else” block, we want to add 2 statements
• One will update \textit{tries} by one
  – \textit{Tries} is a property of score, the TextModel seen above the white rabbit
• The other will set the value of score to \textit{tries}
Second addMouseListener

• Now we will edit the second addMouseListener, which is for the restart button

• When the user clicks on the restart button, we want the restart procedure to run
  – Restart is a scene procedure
Run the game!

• As you click cards, they should turn over
• If they match, they will vanish
• Try to win in as few moves as possible!