

CS21: INTRODUCTION TO COMPUTER SCIENCE

Prof. Mathieson

Fall 2017

Swarthmore College

Informal Quiz: discuss with a partner

- 1) For a complete TDD, should main be finished or just an outline?
- 2) For a complete TDD, which parts of each function should be present? **(a)** parameters **(b)** return value **(c)** description of the implementation details **(d)** comment about what the function does **(e)** function name

- 3) What is **row_str** after running this code?

```
row = ["X", "0", " "]  
row_str = "|".join(row)
```

- 4) What type of data structure is **data** below? What is the error?

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data = [[5, 3, 4, 7, 2, 6],[8, 5, 0, 7, 6, 1]]  
for i in range(len(data)):  
    for j in range(len(data[i])):  
        print(data[j][i])
```

- 5) What is my favorite song?

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List-of-lists (LOL data structure)
Error: index out of range
Should be: data[i][j]

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Outline Oct 30:

- More lab 4&5 examples
- Continue TDD: tic-tac-toe mini-lab
- Wed: hand back Lab 5 and mid-semester feedback summary

Notes

- **Lab 7** due **Saturday** night (email me when you finish TDD!)
- Office Hours **Friday 3-5pm and by appointment**

Lab 5 Examples

Lab 4: Blackjack against dealer example

Anar

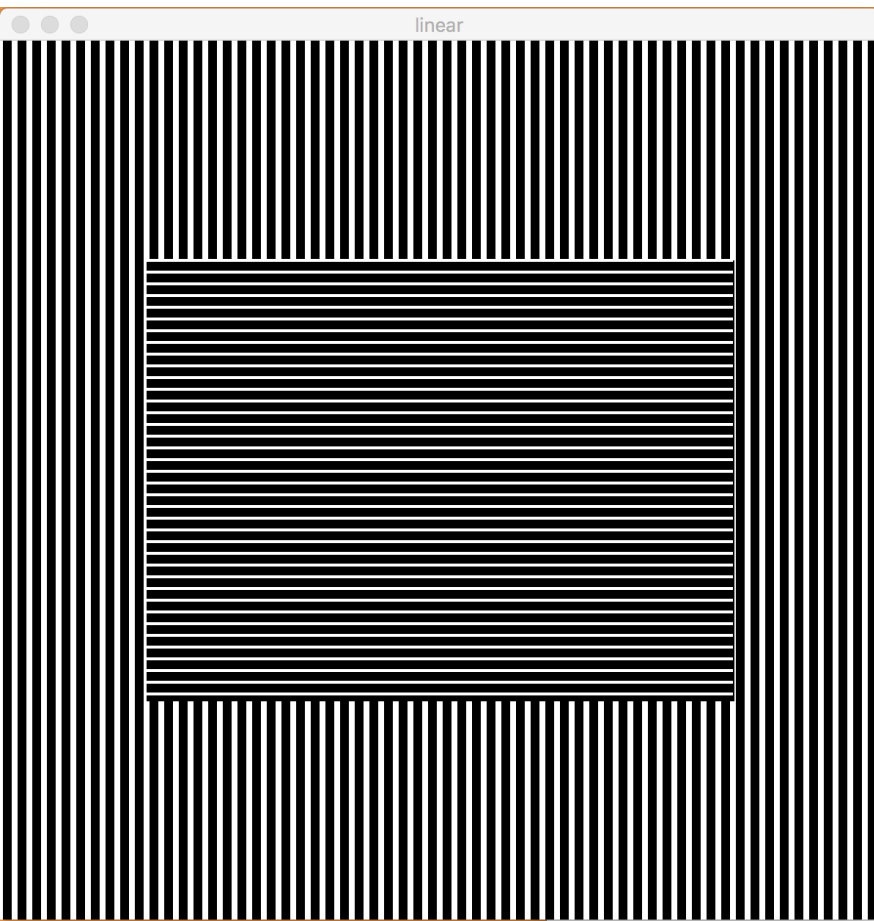
```
Dealer shows 7...
Player's First card = 8
Player's Second card = 1
Player's Total so far = 9
-----
Please enter hit or stick: hit
Player's Next card = 7
Player's Total so far = 16
-----
Please enter hit or stick: stick
Player sticks with 16
-----
Dealer has 14
-----
Dealer's Next card = 3
Dealer has 17
-----
Player's total = 16, Dealers total = 17)
-----
You lose... :(
```

```
Dealer shows 8...
Player's First card = 6
Player's Second card = 2
Player's Total so far = 8
-----
Please enter hit or stick: hit
Player's Next card = 5
Player's Total so far = 13
-----
Please enter hit or stick: hit
Player's Next card = 1
Player's Total so far = 14
-----
Please enter hit or stick: hit
Player's Next card = 6
Player's Total so far = 20
-----
Please enter hit or stick: stick
Player sticks with 20
-----
Dealer has 11
-----
Dealer's Next card = 8
Dealer has 19
-----
Player's total = 20, Dealers total = 19)
-----
Player wins!
```

Line art examples

Amaechi

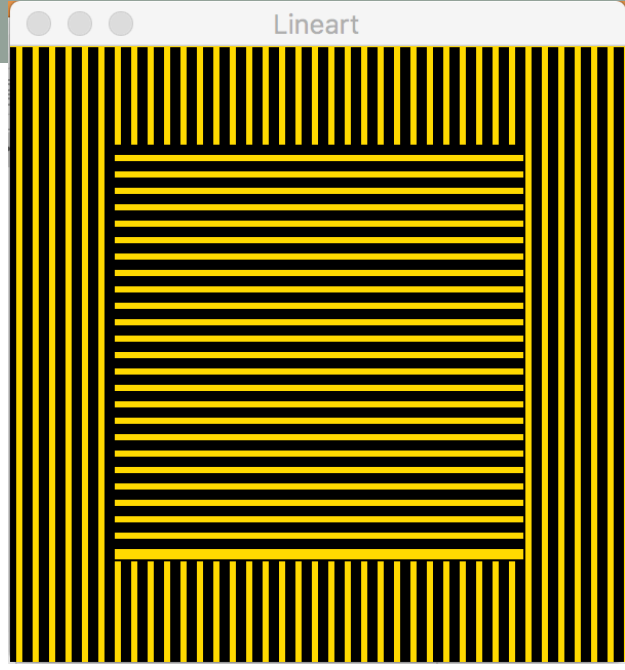
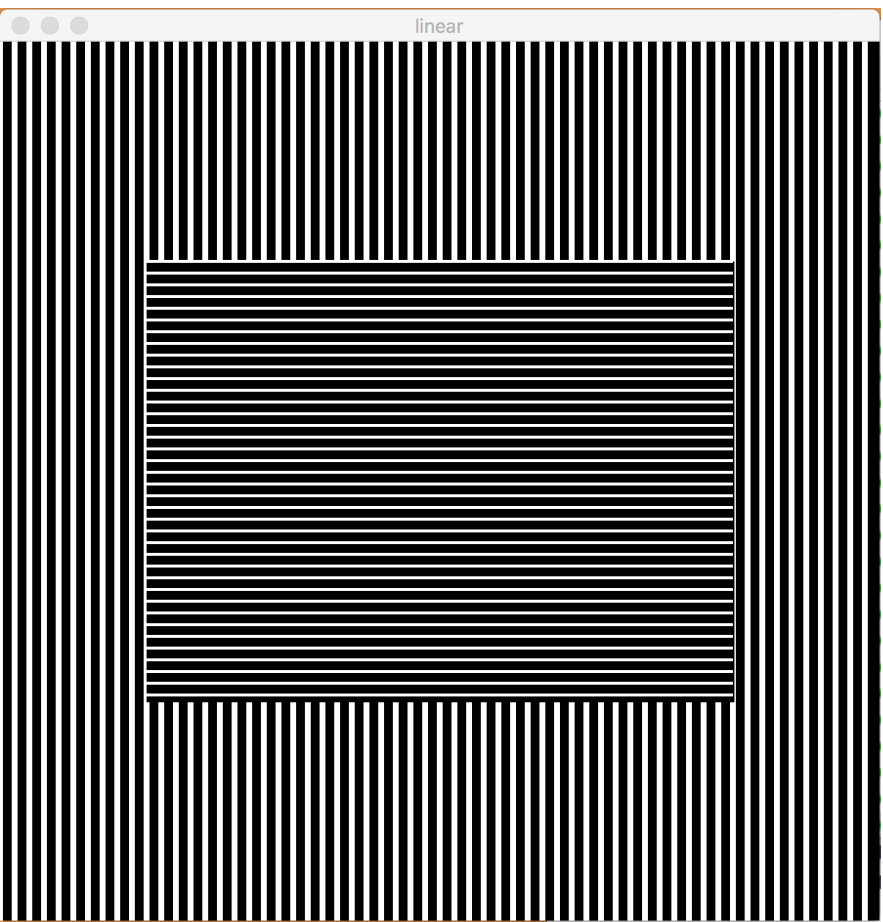
```
width: 400  
height: 300  
line space 1:10  
line space 2:8  
line width 1:4  
line width 2:2  
window size: 600
```



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line space 1:10  
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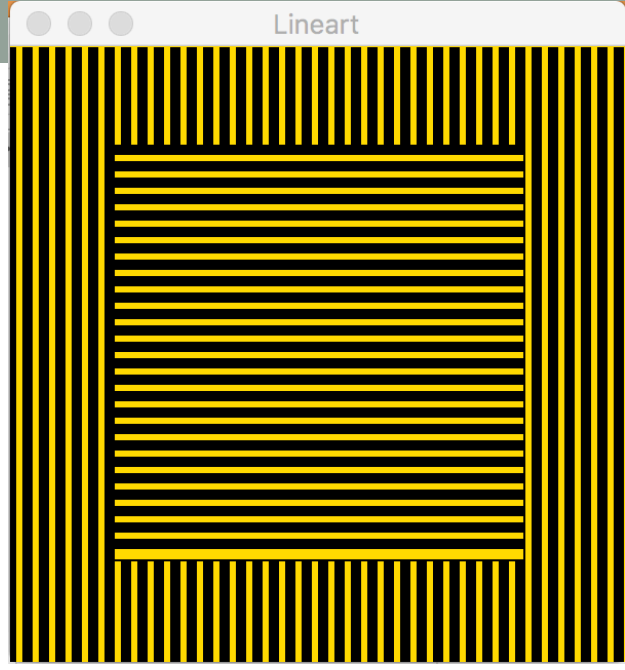
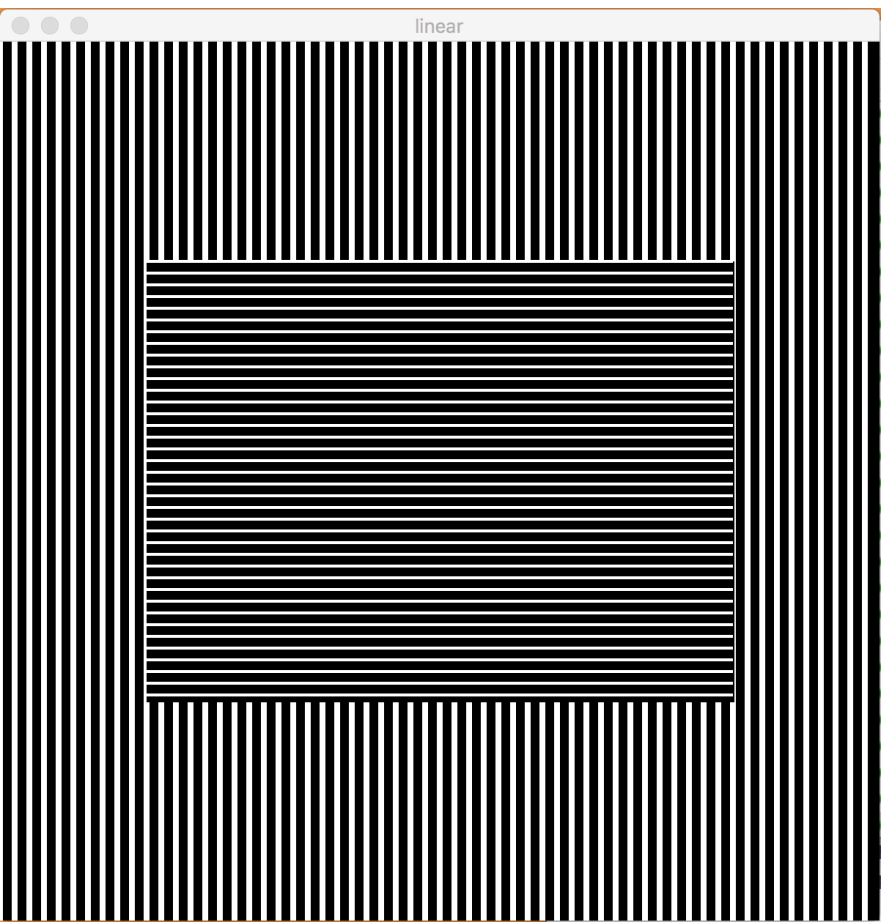


Brandon

Line art examples

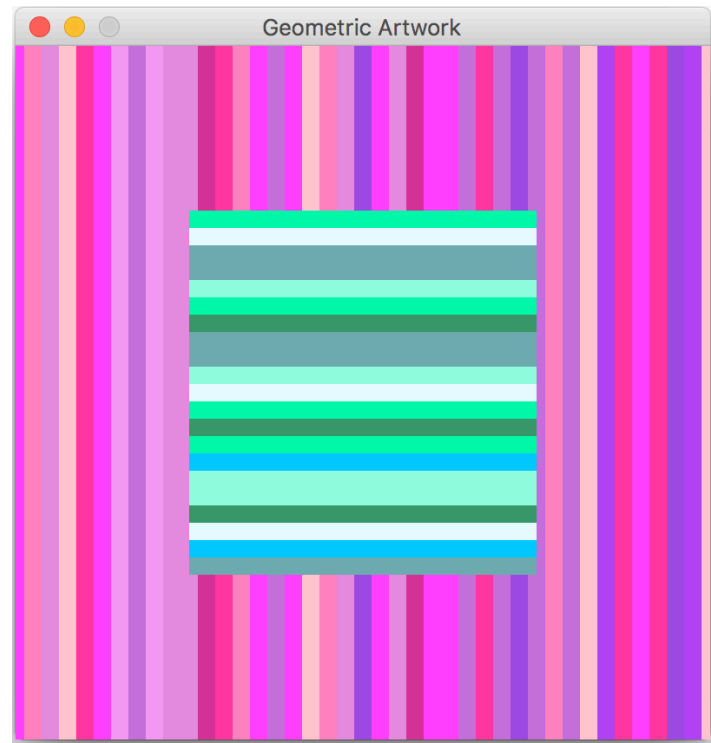
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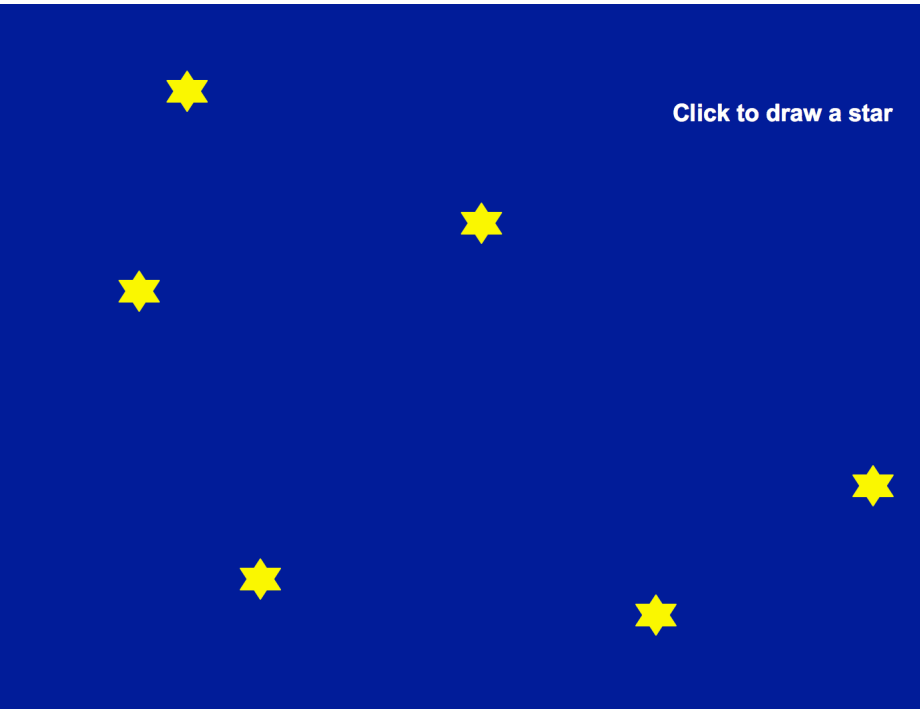
Brandon

Eddie



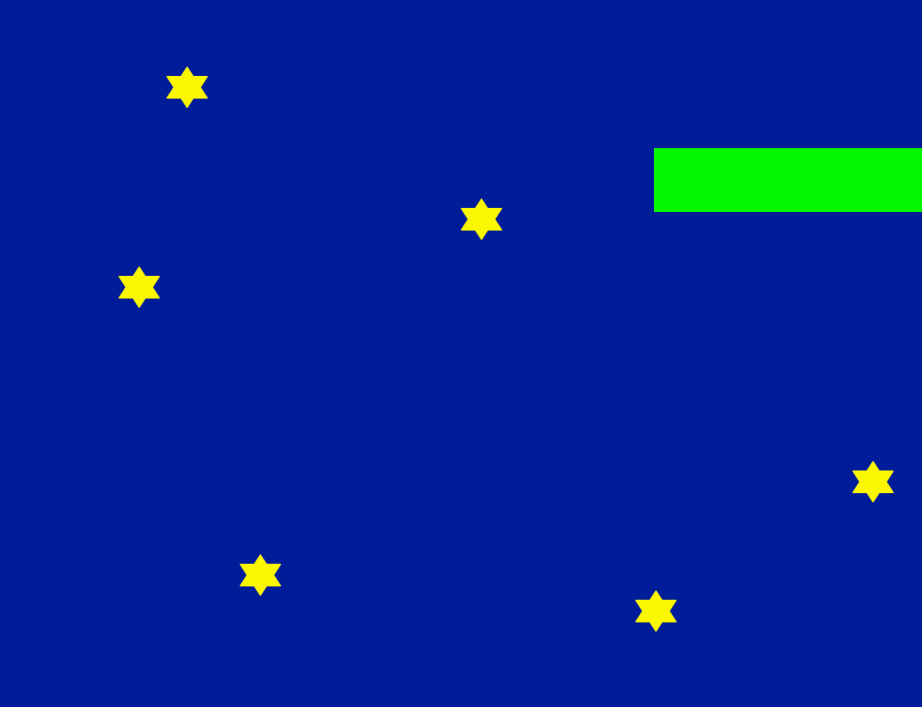
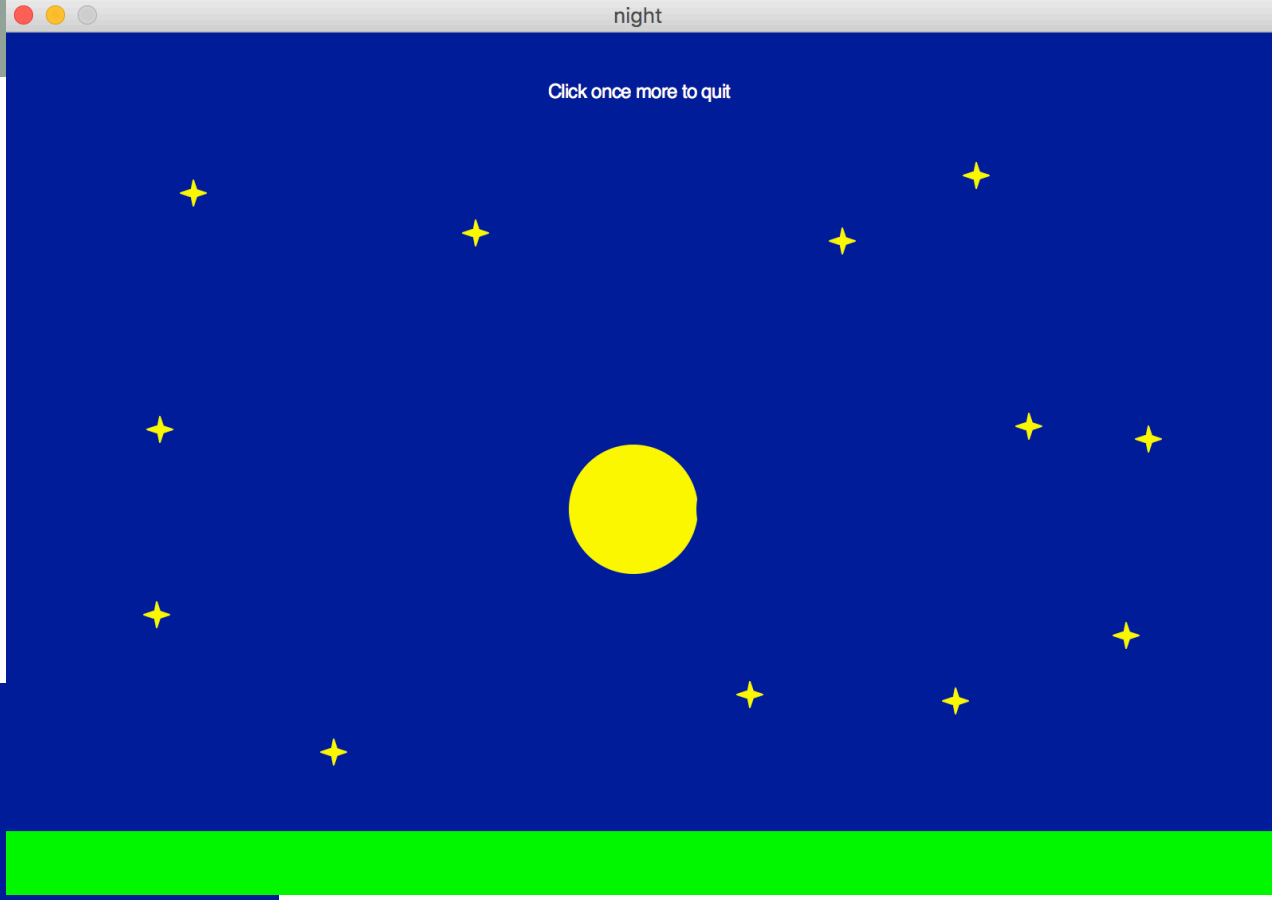
Night sky examples

Austin



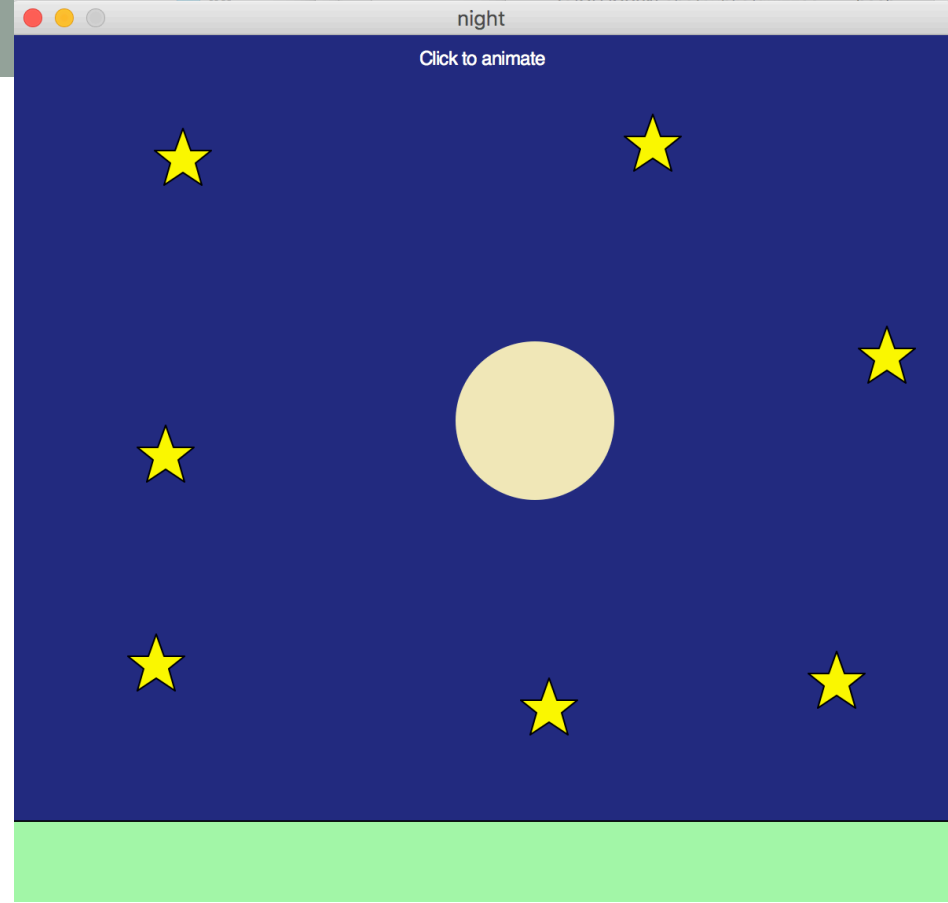
Night sky examples

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Ari

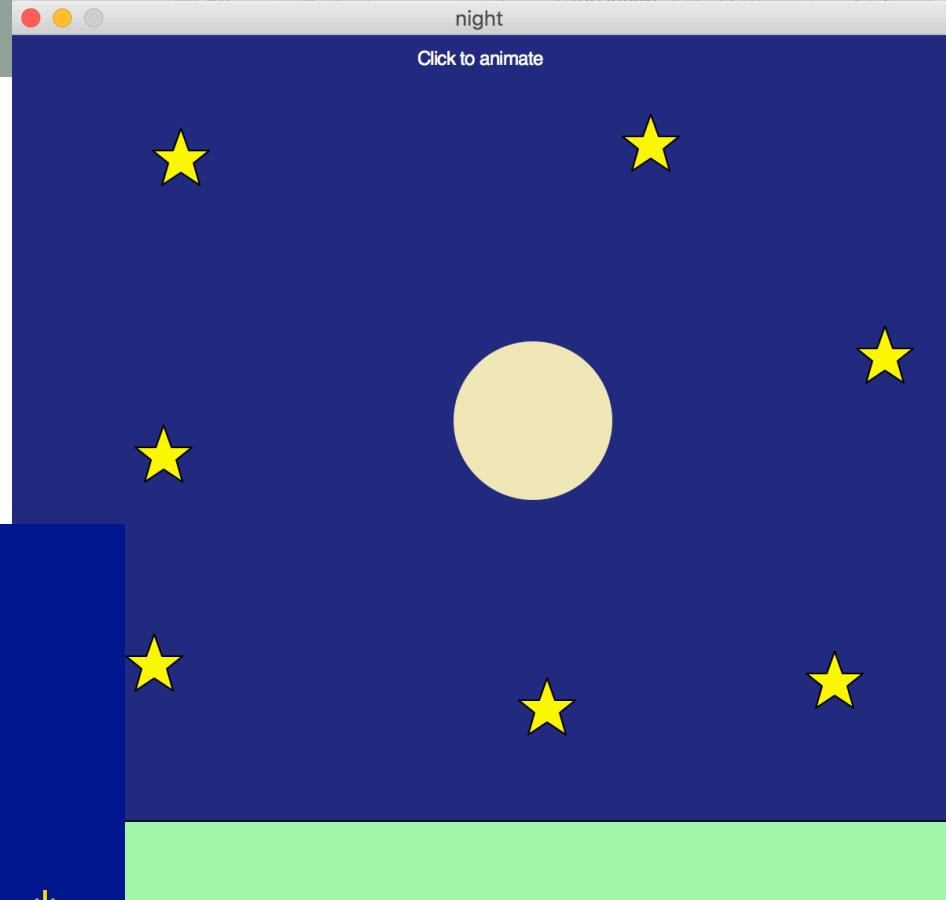
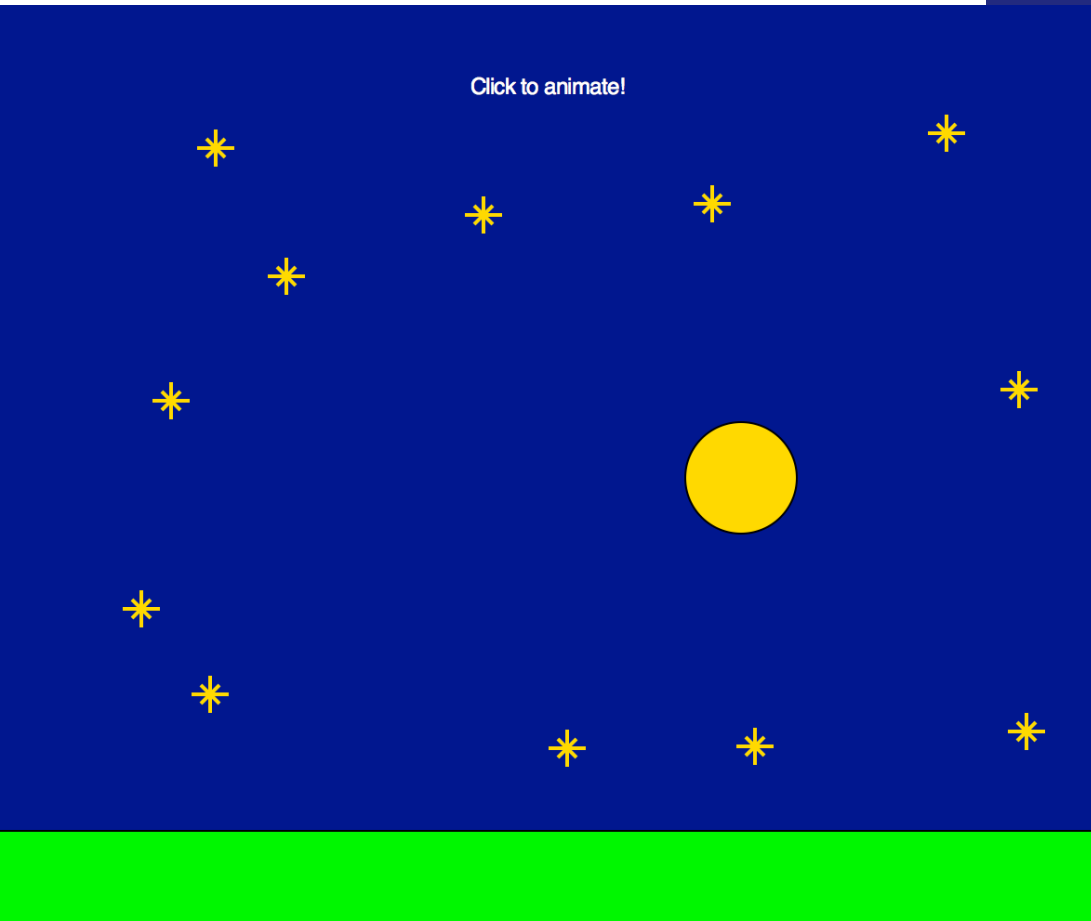
Night sky examples



Talia

Night sky examples

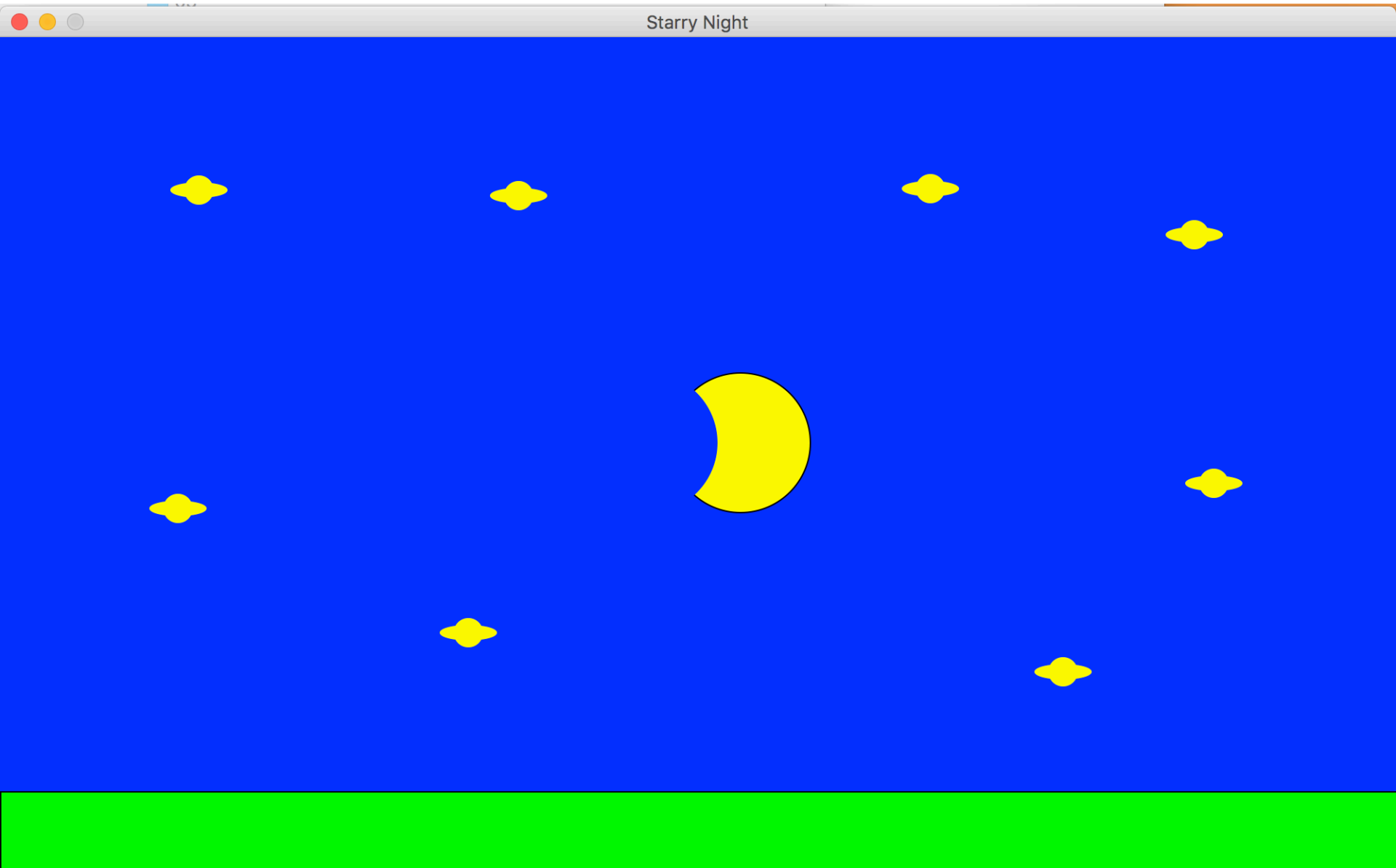
Miryam



Talia

Night sky examples

Skylar



Continue: TDD (example: tic-tac-toe)

In-class today: mini TDD lab

- Example of finished TDD: `word_guesser`

- 1) Work with a partner on your TDD and code it up: [week07/tictactoe.py](#)
- 2) When you're finished, ask me or a ninja to check your design
- 3) After you've gotten the okay, copy your design into [week08/tictactoe_full.py](#) and start implementing
- 4) Last 10 min: we'll do a TDD+ start of implementation as a class

```
X|O|O
----
X|X|O
----
O|X|X

It's a draw!!
```