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?

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

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

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

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

4) What type of data structure is `data` below? What is the error?
   ```python
   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])
   ```
   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
### Line art examples

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

Austin
Night sky examples

Austin

Ari
Night sky examples
Night sky examples

Miryam

Talia
Night sky examples

Starry Night
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|0|0
-----
X|X|0
-----
0|X|X
It's a draw!!
```