

Presentation 12

Lists & Tuples

Announcements for Today

Lessons

- **Videos 15.1-15.7** for today
- **Videos 16.1-16.7** next time

- **Prelim, 10/18 at 7:30 pm**
 - Material up to **TODAY**
 - Study guide is posted
- **Assigned seats/proctors**
 - Look in CMS for assignment
 - Email Amy ASAP if issues
- **Online students contacted**

Assignments

- A2 is now graded
 - Access it in **Gradescope**
 - Graded out of 50 points
 - **Mean:** 43.9, **Median:** 47
 - **A:** 46 (60%), **B:** 37 (26%)
- A3 due this **Friday**
 - Thurs last day for help
 - Will grade by Sunday

Lab Today(?)

- There is **no lab** today or Wednesday
 - Technically tomorrow is break
 - Will cover this material on Thursdays lab
 - Last weeks lab is due Thursday/Friday
- **But it is on the exam!**
 - You already know everything about them
 - Slicing acts like strings; folders act like objects
 - Slice copies are the **ONLY** thing new.

Lab Today(?)

- There is **no lab** today or Wednesday
 - Technically tomorrow is break
 - Will cover this material on Thursdays lab
 - Last weeks lab is due Thursday/Friday
- **But it is on the exam!**

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- Sl
- Sl

Won't ask you to write code with them.
But they are fair game in call frames!

S

Review Session

- Held this Thursday at 7:30pm
 - Will use the normal class Zoom link
 - Can go 1-2 hours depending on questions
 - We will record and post the video
- Will review the basic question types
 - Similar to contents of study guide
- Review slides are posted (w/o answers)
 - Review will go through these problems
 - Answers will be posted after review session

Slicing Tuples

>>> x = (5, 6, 5, 9, 15, 23)

- What is x[2:5]?

0	1	2	3	4	5
5	6	5	9	15	23

A: (5, 9, 15)

B: (5, 9, 15, 23)

C: (5, 9)

D: [5, 9, 15]

E: I do not know

Slicing Tuples

```
>>> x = (5, 6, 5, 9, 15, 23)
```

- What is `x[2:5]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: (5, 9, 15) **CORRECT**

B: (5, 9, 15, 23)

C: (5, 9)

D: [5, 9, 15]

E: I do not know

Slicing Tuples

>>> x = (5, 6, 5, 9, 15, 23)

- What is x[2:3]?

0	1	2	3	4	5
5	6	5	9	15	23

A: (5, 9)

B: (5)

C: (5,)

D: (6, 5)

E: I do not know

Slicing Tuples

```
>>> x = (5, 6, 5, 9, 15, 23)
```

- What is `x[2:3]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: (5, 9)

B: (5)

C: (5,) **CORRECT**

D: (6,5)

E: I do not know

Slicing Lists

```
>>> x = [5, 6, 5, 9, 15, 23]
```

- What is `x[2:3]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: [5, 9]

B: [5]

C: [5,]

D: 5

E: I do not know

Slicing Lists

```
>>> x = [5, 6, 5, 9, 15, 23]
```

- What is `x[2:3]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: [5, 9]

B: [5]

CORRECT

C: [5,]

D: 5

E: I do not know

Slicing Lists

```
>>> x = [5, 6, 5, 9, 15, 23]
```

- What is `x[-4:-2]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: [5, 9, 15]

B: [5, 9]

C: []

D: **ERROR!**

E: I do not know

Slicing Lists

```
>>> x = [5, 6, 5, 9, 15, 23]
```

- What is `x[-4:-2]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: [5, 9, 15]

B: [5, 9] **CORRECT**

C: []

D: **ERROR!**

E: I do not know

Slicing Lists

```
>>> x = [5, 6, 5, 9, 15, 23]
```

- What is `x[-2:-4]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: [5, 9, 15]

B: [5, 9]

C: []

D: **ERROR!**

E: I do not know

Slicing Lists

```
>>> x = [5, 6, 5, 9, 15, 23]
```

- What is `x[-2:-4]`?

0	1	2	3	4	5
5	6	5	9	15	23

A: [5, 9, 15]

B: [5, 9]

C: [] **CORRECT**

D: **ERROR!**

E: I do not know

Lists and Methods

```
>>> x = [5, 6, 5, 9, 10]
```

```
>>> x[3] = -1
```

```
>>> x.insert(1,2)
```

• What is x[4]?

A: 10

B: 9

C: -1

D: **ERROR!**

E: I do not know

Lists and Methods

```
>>> x = [5, 6, 5, 9, 10]
```

```
>>> x[3] = -1
```

```
>>> x.insert(1,2)
```

• What is x[4]?

A: 10

B: 9

C: -1 **CORRECT**

D: **ERROR!**

E: I do not know

Lists and Slicing

```
>>> x = [5, 6, 5, 9, 10]
```

```
>>> y = x[1:]
```

```
>>> y[0] = 7
```

• What is `x[1]`?

A: 7

B: 5

C: 6

D: **ERROR!**

E: I do not know

Lists and Slicing

```
>>> x = [5, 6, 5, 9, 10]
```

```
>>> y = x[1:]
```

```
>>> y[0] = 7
```

• What is `x[1]`?

A: 7

B: 5

C: 6 **CORRECT**

D: **ERROR!**

E: I do not know

Lists and Expressions

```
>>> a = '1'
```

```
>>> b = '2'
```

```
>>> x = [a, b, a+b]
```

- What is `x[2]`?

A: 'a+b'

B: '12'

C: 3

D: **ERROR!**

E: I do not know

Questions?

Demo Time!

```
def remove_first(atuple,value):
```

```
    """
```

```
    Returns a copy removing the first occurrence of value in atuple
```

```
    If value is not in atuple, this returns atuple.
```

```
    Parameter atuple: The tuple to copy
```

```
    Precondition: atuple is a tuple
```

```
    Parameter value: The value to remove
```

```
    Precondition: value can be anything
```

```
    """
```

```
    pass
```

Demo Time!

```
def rotate(alist):
```

```
    """
```

```
    Rotates the contents of alist one element to the right.
```

```
    Rotating a list to the right pushes all elements to the right, and makes  
    the previously last element the new first element.
```

```
    Examples:
```

```
        If a = [0,2,3,4], rotate(a) makes a = [4,0,2,3]
```

```
        If a = [1], rotate(a) makes a = [1]
```

```
    Parameter alist: The list to rotate
```

```
    Precondition: alist is a non-empty list
```

```
    """
```