

Quiz

Before we start

- Don't open until we start
- Make sure your name and Andrew ID are on the front
- Read instruction page
- No questions (unless clarification on English)

Additional info

- 25 min



15-112
Lecture 2

Week 5 Tue
2-D Lists

Instructor: Pat Virtue

Start recording!!

Post-Quiz Fun

Now!

(? how to do this in Python?)

Twilight

E	I	V	O	L	T	U	R	I	N	E	T
W	D	D	N	W	E	R	E	W	O	L	F
A	V	E	W	P	E	T	C	I	V	L	U
O	A	L	A	L	O	W	L	T	B	S	A
N	G	L	D	F	A	I	I	T	A	P	A
E	A	L	G	T	I	L	P	S	W	A	N
L	S	A	N	E	R	I	S	N	V	T	A
L	E	A	I	D	O	G	E	V	A	K	R
U	A	L	K	W	T	H	W	C	M	C	R
C	A	L	A	A	C	T	E	R	P	A	E
L	O	E	E	R	I	L	S	L	I	L	T
A	A	B	R	D	V	T	V	G	R	B	L
U	C	B	B	N	O	O	M	W	E	N	O
R	B	O	C	A	J	G	O	N	S	A	V

TWILIGHT
SAGA
NEW MOON
ECLIPSE
BREAKING DAWN
BELLA
SWAN
EDWARD
CULLEN
VAMPIRES
WEREWOLF
JACOB
BLACK
VICTORIA
VOLTERRA
VOLTURI

2D Lists

Poll 1

Would you attend a weekly homework solution session?

- A. No
- B. Yes, but only if there's a remote option
- C. Yes, but I would prefer remote over in-person
- D. Yes, and I will attend in-person even if there is a remote option

Word Search

Twilight

E	I	V	O	L	T	U	R	I	N	E	T
W	D	D	N	W	E	R	E	W	O	L	F
A	V	E	W	P	E	T	C	I	V	L	U
O	A	L	A	L	O	W	L	T	B	S	A
N	G	L	D	F	A	I	I	T	A	P	A
E	A	L	G	T	I	L	P	S	W	A	N
L	S	A	N	E	R	I	S	N	V	T	A
L	E	A	I	D	O	G	E	V	A	K	R
U	A	L	K	W	T	H	W	C	M	C	R
C	A	L	A	A	C	T	E	R	P	A	E
L	O	E	E	R	I	L	S	L	I	L	T
A	A	B	R	D	V	T	V	G	R	B	L
U	C	B	B	N	O	O	M	W	E	N	O
R	B	O	C	A	J	G	O	N	S	A	V

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Poll 2

Which of these is the best code to create a blank word search board?

rows, cols = 4, 3

aliased rows X

✓ A.

```
board = []
for row in range(rows):
    board.append([' ']*cols)
```

✓ B.

```
board = []
for row in range(rows):
    blankCell = [' ']
    blankRow = blankCell * cols
    board.append(blankRow)
```

C.

```
blankCell = [' ']
blankRow = blankCell * cols
blankRowIn2DList = [blankRow]
board = blankRowIn2DList * rows
```

D.

```
board = [[' ']*cols]*rows
```


Code tracing with lists

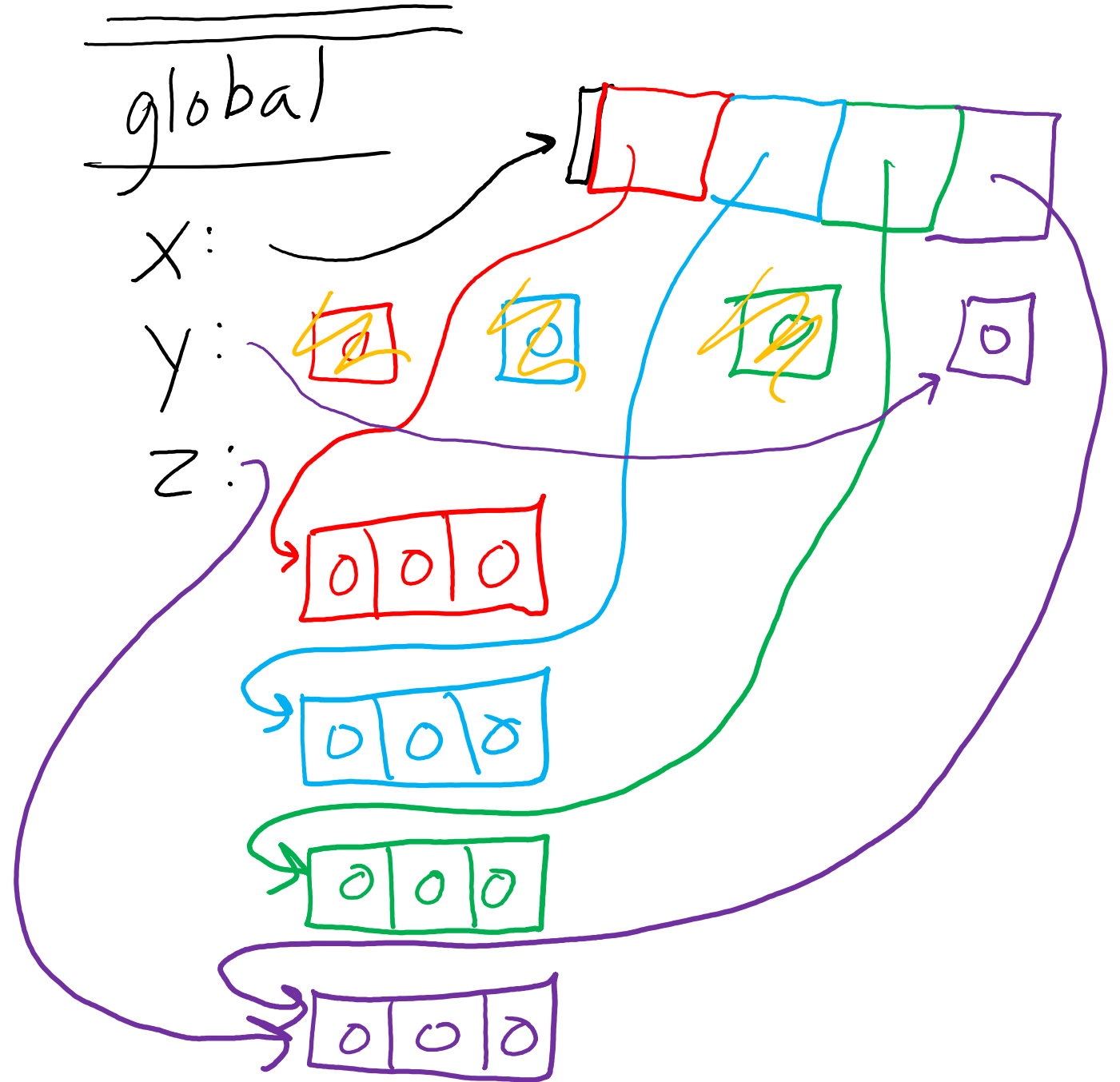
```
x = []
```

```
for i in range(4):
```

```
    y = [0]
```

```
    z = y * 3
```

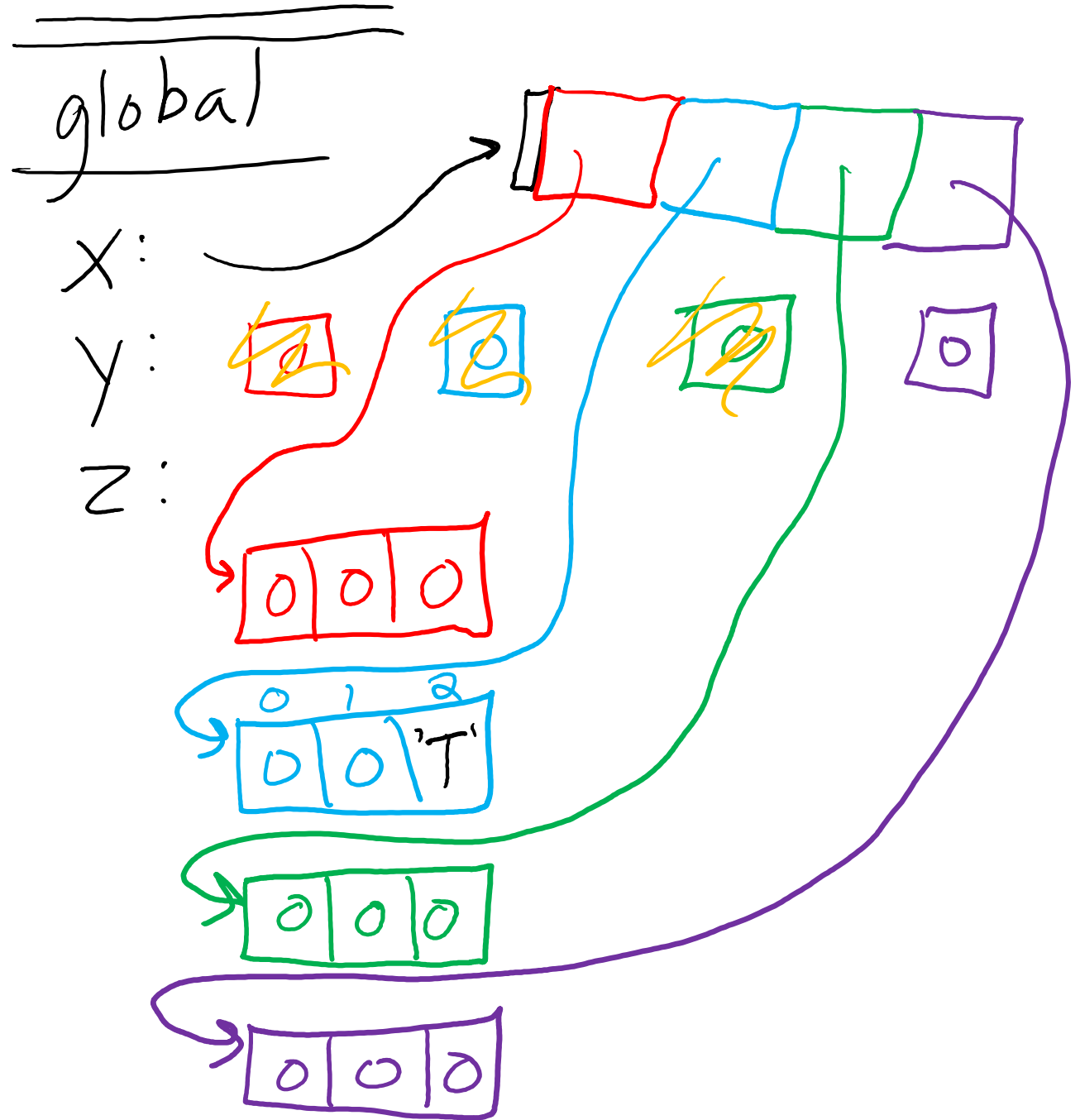
```
    x.append(z)
```



Code tracing with lists

```
x = []  
for i in range(4):  
    y = [0]  
    z = y * 3  
    x.append(z)
```

x[1][2] = 'T'



(Didn't get to in lecture)

Code tracing with lists

```
x = [[0]*3] * 4
```

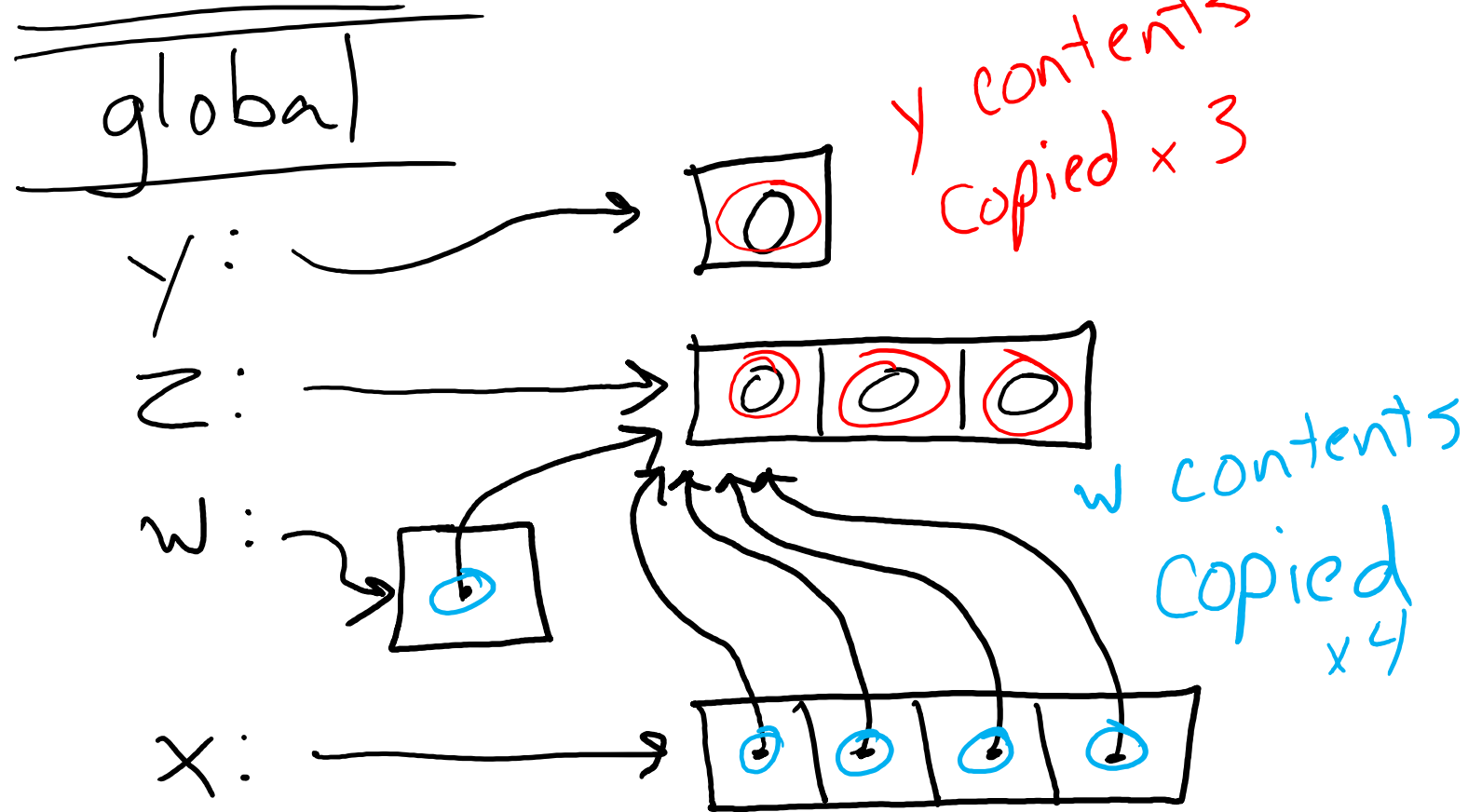
Step by step:

```
y = [0]
```

```
z = y * 3
```

```
w = [z]
```

```
x = w * 4
```



2D lists

Things to keep in mind

Watch out for aliasing!

Think before copying

- Shallow copy
- Deep copy

Helper functions for printing

Word Search Top-down Design

Twilight

E	I	V	O	L	T	U	R	I	N	E	T
W	D	D	N	W	E	R	E	O	L	F	
A	V	X	W	P	E	T		V	L	U	
O	A	L	A	L	O	W	L	T	B	S	A
N	G	L	D	F	A	I	I	T	A	P	A
E	A	L	G	T	I	L	P	S	W	A	N
L	S	A	N	E	R	I	S	N	V	T	A
L	E	A	I	D	O	G	E	V	A	K	R
U	A	L	K	W	T	H	W	C	M	C	R
C	A	L	A	A	C	T	E	R	P	A	E
L	O	E	E	R	I	L	S	L	I	L	T
A	A	B	R	D	V	T	V	G	R	B	L
U	C	B	B	N	O	O	M	W	E	N	O
R	B	O	C	A	J	G	O	N	S	A	V

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