Midterm Review

Monday, October 17, 2022   9:11 PM

```
for num in [1, 16, 4]:
    print(num)
    num = num * 10
```

1 min: what does this print?

```
>> 1
   16
   4
```

$$\frac{num}{\cancel{1}\;\cancel{10}\;16\;\cancel{160}\;4\;40}$$

loop variables get reset at top
of loop (regardless of what happens in
the loop!)

Breakout on Lecture 12
Handout off Canvas

Exercise 1 : Specify the output of each of the 4 programs, P1, P2, P3 and P4, shown below. If the program prints nothing, write NOTHING. If the program has a syntax error, write ERROR.

P1	`for fruit in ["apple", "tomato", "ant (fruit?)"]:` `    print("a/an", fruit)`	

Exercise 1 : Specify the output of each of the 4 programs, P1, P2, P3 and P4, shown below. If the program prints nothing, write NOTHING. If the program has a syntax error, write ERROR.

<table>
<tr>
<td>P1</td>
<td>

```
for fruit in ["apple", "tomato", "ant (fruit?)"]:
      print("a/an", fruit)
```

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<table>
<tr>
<td>P2</td>
<td>

```
for aNum in [1, "1", float(2)]:
      print(int(aNum) * int(aNum))
```

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<table>
<tr>
<td>P3</td>
<td>

```
for aLetter in [    "a", "b", "c", "d"    ]
       print(aLetter, sep="AM")
```

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<table>
<tr>
<td>P4</td>
<td>

```
for aLetter in ["a", "b", "c", "d"]:
       print(aLetter)
```

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</table>

P1   a/an apple
      a/an tomato
      a/an ant (fruit?)

P2   1
      1
      4

P3   Error (missing colon)

P3   Error (Missing code?)

P4   a
      b
      c
      d

Ranges review

$$\text{for i in range (4):}$$
$$\text{for j in range (3,6):}$$
$$\text{print ("*", end="-")}$$
$$\text{print}$$

i: (loops 4 times)
j: (loops 3 times)

```
>>
 *-*-*-
*-*-*-
*-*-*-
*-*-*_
```

Breakout rooms :

```
v = 1
for i in range(1, 6):
    v = v * i
```

Which of the following programs end with v
having the same value as the program above?

Program A:
```
v = 1
i = 0
while i < 5:
    i += 1
    v = v * i
```

Program B:
```
v = 2
for i in range(1, 5):
    v = v * i
```

Program C:
```
v = 1
for i in range(5):
    v = v * (i + 1)
```

Program D:
```
v = 1
i = 1
while i <= 5:
    v = v * i
    i += 1
```

(all but B
Code in "whichCodeU isSame.py")

Under wherwein lecture 12 skel done
C:\Users\Caroline\OneDrive - Western Washington University\Teaching\141\Materials from other instructors\Lectures - modified from Wehrwein\L12\L12_done

Range breakout and ABCD

Friday, April 22, 2022   3:04 PM

These are all in the breakout room slides

Breakout rooms
3 min

Challenge

When running the code below, what pairs of values could be assigned to the variables x and y so that the program prints WWU 43 times? Select all correct choices.

↙ x starts at 0

```
x =
y =
for z in range(x, y):
    print("WWU")
```

x: 0	y: 44	44
x: -21	y: 22	43
x: -21	y:21	42
x: -789	y: -746	43
x: -789	y: 746	1535
x: 1	y: 44	43

Equivalent question:
for which of these is $y - x == 43$?

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Size of a range

```
for i in range(5):
    print(i, end=" ")
```
prints: 0 1 2 3 4

```
for i in range(2, 5):
    print(i, end=" ")
```
prints: 2 3 4

```
for i in range(1, 8, 3):
    print(i, end=" ")
```
prints: 1, 4, 7

Exercise: How many elements are in range(n)?

A. 0
B. n-1
C. n
D. 10

ABCD

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Size of a range

```
for i in range(5):
    print(i, end=" ")
```
prints: 0 1 2 3 4

```
for i in range(2, 5):
    print(i, end=" ")
```
prints: 2 3 4

```
for i in range(1, 8, 3):
    print(i, end=" ")
```
prints: 1, 4, 7

Exercise: How many elements are in range(a, b)?

A. a-b
B. b-a-1
C. b-a+1
D. b-a

ABCD

Turtle review

Monday, October 24, 2022   10:56 AM

tim = turtle.Turtle()
  You're creating a copy of turtle and you should be using tim instead after that line.
  tim.goto() (NOT turtle.goto(x, y)

```
if __name__ == "__main__":
  # code here will not run when this file is imported
  # but will run if the file is run as a program
  print("Hello, world!")
```

finishing their main function with a turtle.done()