CS21: INTRODUCTION TO COMPUTER SCIENCE

Prof. Mathieson

Fall 2018

Swarthmore College

Outline Sept 14:

Sit at a new computer!

- For loop recap
- Random module
- Accumulator pattern
 - sum_loop.py program
 - rand_loop.py program
 - user_loop.py program

More practice problems:

- stretch.py
- telephone.py

Notes

- Lab 1 due Saturday night
- Office hours TODAY (3-5pm in 249)
- Ninja session TONIGHT (7-9pm in 256)
- Quiz 1: next Friday (9/21), let me know about conflicts
- Practice problems in the practice directory (try on paper first)
- Email me if you will be absent from class

Participation

- Attending class
- Participating in class (asking/answering questions)
- Attending ninja sessions & office hours *
- Posting on Piazza (both asking and answering

Grades will be weighted as follows:

35% Lab assignments

30% Quizzes

30% Final Exam

5% Class Participation

1) Fix the errors in the code below, by Student X:

```
# goal: print "hello!" 3 times
x = 3.0
for i in range(x):
    print("hello!")

C

# goal: print first ten even numbers
for i in range(10):
    print(x*2)
# goal: print last character of string
day = "Friday"
n = len(day)
print(day[n])
```

• 2) When I say "for i in range(4)", does this define a new variable? If so, what value(s) does it take on?

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# goal: print "hello!" 3 times

x = 30 3 (must be an int)
for i in range(x):
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                                   # goal: print 1,2,3,4,5 on separate lines
 x = 3 \sqrt{3} (must be an int)
                                   for i in range(5):
                                        print(X) |+1
                                                        (range starts from 0)
 for i in range(x):
      print("hello!")
                                          # goal: print last character of string
 # goal: print first ten even numbers
                                          day = "Friday"
 for i in range(10):
                                          n = len(day)
     print(x_2)i^*2 (x is not defined)
                                          print(day[Xi) day[n-1]
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3) Bonus: How could I count backward from n (even) to 0 by 2's?
 Exercise! (make a new file in practice directory: "atom even_loop.py")

Recap last time

square.py

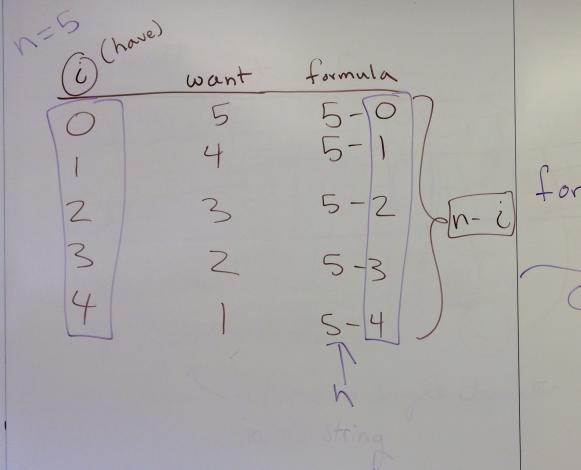
```
def main():
    # ask the user for an integer
    n = int(input("Enter an integer: "))
    # run the for loop n times
    for i in range(n):
        # for each pass through the loop, use string repetition
        print("*"*n)
main()
```

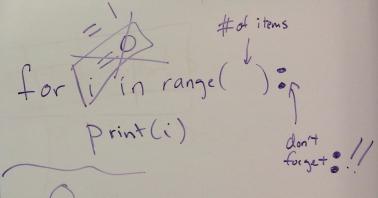
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```

In this case the code "inside" the for loop (indented) did not depend on the loop index variable *i*, but often it will

blastoff.py (example of written work)





Accumulator pattern

+ random module demo

sum_loop.py (example of written work)

Practice accumulator pattern

- Working with a partner, complete the rand_loop.py code
- Move on to the user_loop.py program
- More accumulator practice (with strings) in the practice directory if you finish early
 - stretch.py

```
python3 stretch.py
Enter a string: weekend
Stretch string: wweekkeenndd
```

telephone.py

```
python3 telephone.py
Enter a sentence: How was your weekend?
Transmitted sentence: Hwwsyu ekn?
```