

CS21: INTRODUCTION TO COMPUTER SCIENCE

Prof. Mathieson

Fall 2017

Swarthmore College

Outline Sept 20:

TODO: fill out notecards
(questions in the back)

- Continue conditionals (if/elif/else)
- Logical operators (and, or, not)
- Nesting (+ indexing practice)
- Friday after quiz: improve your python

Notes

- **Lab 2** due **Saturday** night
- **Quiz 1**: this Friday! (9/22), first 25-30 min (review study guide)
- **Practice problems** in the practice directory
- **Office hours Friday 3-5pm** (I'll also be around today 3-5pm)
- **Ninja session tonight! 7-9pm** (room 256)

Study strategies

- $10 - (2.5 \text{ class} + 1.5 \text{ lab}) = \mathbf{6 \text{ hrs/week outside of class}}$
- Go over class notes
- Finish in class problems and then go over solutions
- Complete practice problems
- Quiz study guide problems
- Start the lab before your lab section
- Work on lab problems after lab
- Ninja sessions, office hours, meet with instructors

Studying Science at Swarthmore

- 7 PM: 30 min plus Q & A
- **Sunday, September 24**
- Kohlberg Scheuer Room
- Presented by Amy Cheng Vollmer,
Dept. of Biology
- Advice and recommendations compiled from her interviews of many faculty in the Division of Natural Sciences and Engineering
- Recommended by SAMs & geared toward students of all class years
- Sponsored by the Dean of Students Division and Department of Biology



Continue conditionals

conditionals1.py (example solution)

```
"""
First programs with conditionals. Write a program that asks the user for their
favorite integer. Then print out whether the integer is positive, negative, or
zero. For example:

python3 number_conditionals.py
Enter your favorite integer: -4
Your number is negative!

Author: Sara Mathieson
Date: 9/17/17
"""

def main():

    number = int(input("Enter your favorite integer: "))

    if number > 0:
        print("Your number is positive!")
    elif number < 0:
        print("Your number is negative!")
    else:
        print("Your number is zero!")

main()
```

conditionals1.py (example solution)

```
"""
Second program with conditionals. Write a program that asks the user for their
favorite integer. Then print out whether the integer is even or odd. Example:

python3 conditionals2.py
Enter your favorite integer: -4
Your number is even!

Author: Sara Mathieson
Date: 9/17/17
"""

def main():

    number = int(input("Enter your favorite integer: "))

    if number % 2 == 0:
        print("Your number is even!")
    else:
        print("Your number is odd!")

main()
```

Which of these are valid?

1)

```
if  
elif  
elif  
elif  
else
```

2)

```
else  
if
```

5)

```
if  
else  
if
```

3)

```
elif  
else
```

4)

```
if  
if  
if  
if
```


Which of these are valid?

1)

```
if  
elif  
elif  
elif  
else
```

2)

```
else  
if
```



5)


```
if  
else  
if
```

4)

```
if  
if  
if  
if
```

3)

```
elif  
else
```



Logical operators

Logical operators : and, not, or

if $\overset{A}{\text{sunny}}$ and $\overset{B}{\text{finish HW}}$:
beach

if $\overset{A}{\text{sunny}}$ or $\overset{B}{\text{finish HW}}$:
beach.

inclusive

truth table

A	B	A and B
F	F	F
F	T	F
T	F	F
T	T	T★

A	B	A or B
F	F	F
F	T	T★
T	F	T★
T	T	T★

Nesting (+ indexing practice)

New practice problems (suggested order)

- **voting.py** conditionals
- **quadratic.py** conditionals
- **coin_toss.py** for loops, accumulator pattern, nesting, conditionals, random library
- **vowels.py** for loops, accumulator pattern, nesting, conditionals, indexing