Week 13

EECS 183

MAXIM ALEKSA

umich.edu/~maximal

Everyday problems

Batch-rename and copy files

Summarize spreadsheet data

Combine spreadsheet entries

Send personal emails to many people

Python

Lists

```
numbers = [1, 2, 3, 'cats']
```

Lists

```
scores = []                          # scores: []
scores.append(95)                  # scores: [95]
scores.append(100)               # scores: [95, 100]
length = len(scores)                   # length: 2
lastScore = scores.pop()     # lastScore: 100
                                     # scores: [95]
```

Lists

```
students = ['Grace', 'Maxim', 'Michael']

for student in students:
    print student
```

range(n)

[0, 1, 2, ..., n – 1]

Lists

```
numbers = [1, 2, 3, 4, 5]

for i in range(len(numbers)):
    numbers[i] += 1

for number in numbers:
    print number
```

Lists

```
numbers = [1, 2, 3, 4, 5]

for number in numbers:
    number += 1

for number in numbers:
    print number
```

Dictionaries

```
{key: value, key: value, key: value}
```

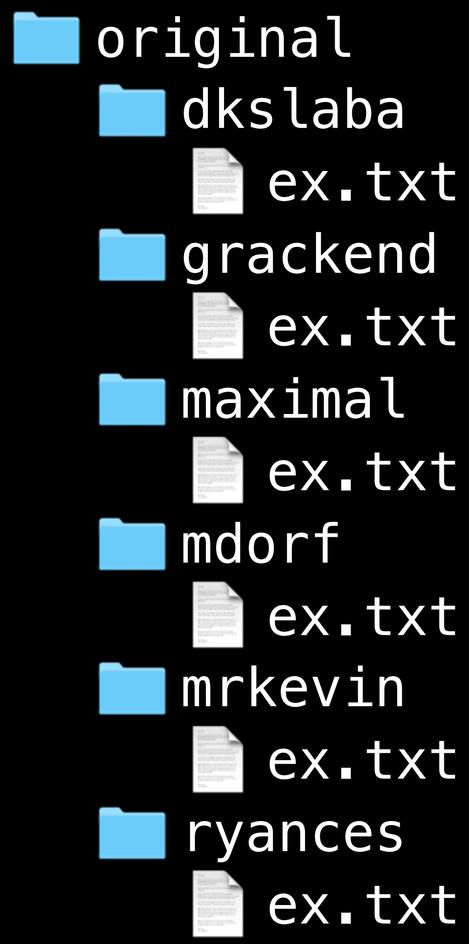
Dictionaries

```
airports = {'YYZ': 'Toronto Pearson',
            'DTW': 'Detroit'}

airports['LHR'] = 'London'
airports['LHR'] = 'London Heathrow'

print "I'm flying out of " + airports['DTW'] + '.'
```

Batch-rename and copy files



Summarize spreadsheet data

gradescope.xlsx

```
Student summary:
Arduino              102
Connect 4            120
Creative AI          128
Web Scheduler        230
iOS                   29
Total                802
```

Combine spreadsheet entries

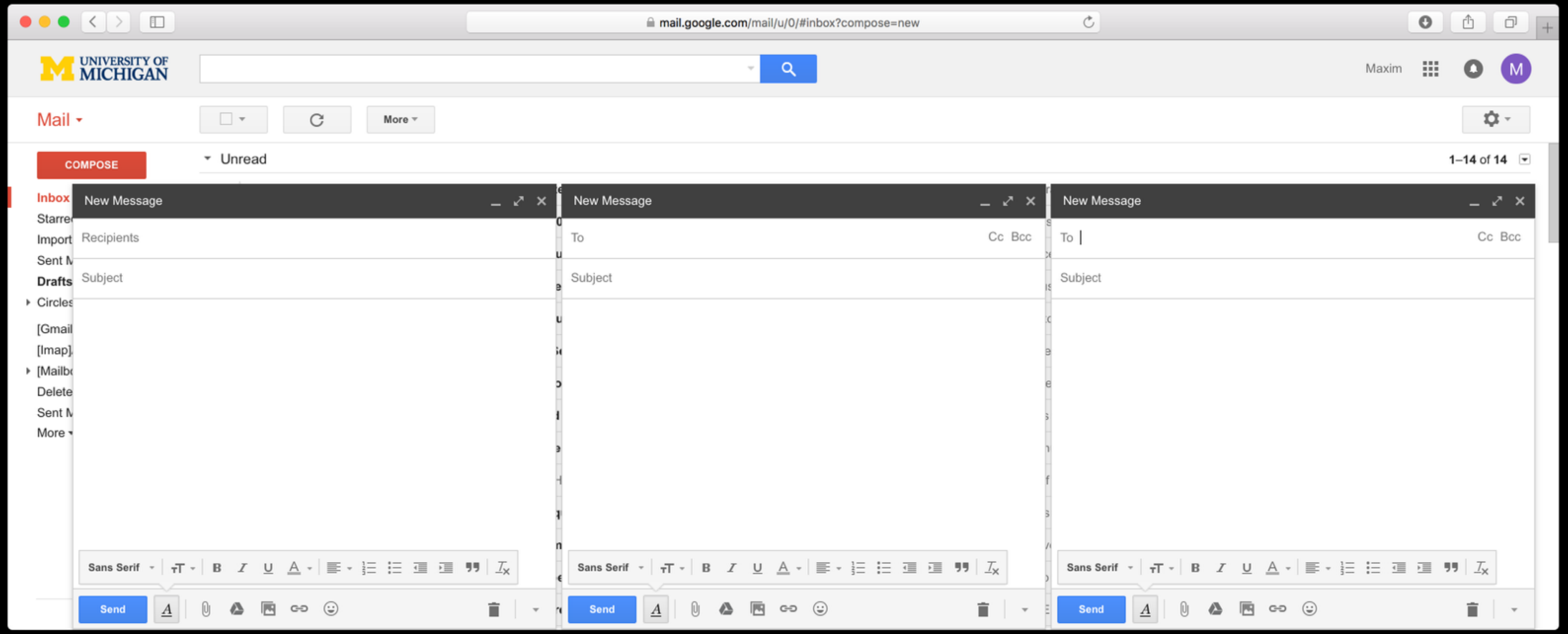
`gradescope.csv`

Name	Submission	Project
Harry	1234	Potions
Hermione	9821	Charms
Ron	1234	Potions
Ginny	9821	Charms

`teams.csv`

Team ID	Project	Student 1	Student 2
1234	Potions	Harry	Ron
9821	Charms	Hermione	Ginny

Send personal emails to many people



Python Review Questions

Fall 2013 Exam 1 Question 6

What does this Python code print?

```
a = raw_input()
b = int(raw_input())
print a * b
```

Assume the user types

```
3.5<Enter>
2<Enter>
```

Fall 2013 Exam 1 Question 6

What does this Python code print?

```
a = raw_input()
b = int(raw_input())
print a * b
```

Assume the user types

```
3.5<Enter>
2<Enter>
```

Answer:

```
3.53.5
```

Almost a question last year

What does this Python code print?

```
def square(n):
    return n * 2

def main():
    print square(2)
```

Almost a question last year

What does this Python code print?

```
def square(n):
    return n * 2

def main():
    print square(2)
```

Answer:

Nothing prints.

Winter 2014 Exam 3 Question 17

Which statement about lists in Python is true?

A. A list must contain elements of all the same type.
B. The size of a list is fixed and cannot change.
C. You can loop through all elements of a list by using indices.
D. Two of the above statements are true.
E. None of the above statements is true.

Winter 2014 Exam 3 Question 17

Which statement about lists in Python is true?

A. A list must contain elements of all the same type.

B. The size of a list is fixed and cannot change.

C. You can loop through all elements of a list by using indices.

D. Two of the above statements are true.

E. None of the above statements is true.

Winter 2014 Exam 3 Question 17

Which of the following is not a valid operation on a string variable in Python?

A. Addition of strings, which is equivalent to appending strings:
```
print 'Hello '  + ' World!'
```

B. Addition of strings and integers, which is equivalent to appending integers to strings:
```
course = 'EECS ' + 183
```

C. Multiplication of string and integers, which repeats the string the integer number of times:
```
'$' * 5
```

D. Indexing into a string to get a single letter of the string:
```
name = 'Maxim'
c = name[0]
```

E. Assignment of an integer to a variable currently holding a string:
```
course = 'EECS 183'
course = 183
```

Winter 2014 Exam 3 Question 17

Which of the following is not a valid operation on a string variable in Python?

A. Addition of strings, which is equivalent to appending strings:
```
print 'Hello '  + ' World!'
```

B. Addition of strings and integers, which is equivalent to appending integers to strings:
```
course = 'EECS ' + 183
```

C. Multiplication of string and integers, which repeats the string the integer number of times:
```
'$' * 5
```

D. Indexing into a string to get a single letter of the string:
```
name = 'Maxim'
c = name[0]
```

E. Assignment of an integer to a variable currently holding a string:
```
course = 'EECS 183'
course = 183
```

Next Tuesday

Creating a personal website

HTTP

HTML

CSS

JavaScript

`http://umich.edu/~uniqname`