

Lab 4 Feedback

- Good overall
 - Problems will keep getting more difficult
 - More and more possibilities as we combine all our newly acquired skills
- Took off for insufficient **testing, comments**

Feb 14, 2012

Sprenkle - CSCI111

1

Testing

- Eureka problem
 - Between 500 and 1000, inclusive
- Box problem

Feb 14, 2012

Sprenkle - CSCI111

2

Input Restrictions

```
user_num=int(input("Please input a number."))
```

Feb 14, 2012

Sprenkle - CSCI111

3

Drawing a Box Alternatives

- For loop

```
print(" "*width)
for rowNum in range(height-2):
    print("."+ " "*(width-2)+".")
print(" "*width)
```

- str operations

```
print(" "*width)
line = "."+" "*(width-2)+".\n"
print(line*(height-2))
print(" "*width)
```

Feb 14, 2012

Sprenkle - CSCI111

4

Code Review

```
numSpaces = 0
for x in range(5):
    print(" "*numSpaces, "\\")
    numSpaces = numSpaces+ 1
```

What does code do?
What are the values are assigned to numSpaces?
Can we simplify?

```
for numSpaces in range(5):
    print(" "*numSpaces, "\\")
```

Feb 14, 2012

Sprenkle - CSCI111

5

Problem with Duplicate Code

```
#Print data for 100m
meters = 100
kilometers = .001*meters
yards = 1.094*meters
miles = .0006215*meters
print("%5d %12.3f %13.1f %10.3f" %
      (meters,kilometers,yards,miles))
```

Difficult to maintain:
• What if need to change the formatting?
• Change the conversion amount!

```
#Print data for 200m
meters = 200
kilometers = .001*meters
yards = 1.094*meters
miles = .0006215*meters
print("%5d %12.3f %13.1f %10.3f" %
      (meters,kilometers,yards,miles))
```

Solutions:
• Constants
• For loop

...

Feb 14, 2012

Sprenkle - CSCI111

6

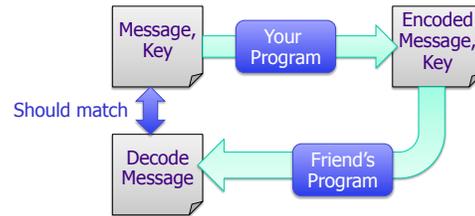
Error Handling

```
WIDTH_INPUT = "Enter a width (" +str(WMIN)+ "-" +str(WMAX) + "): "  
HEIGHT_INPUT = "Enter a height (" +str(HMIN)+ "-" +str(HMAX) + "): "  
  
width = eval(input(WIDTH_INPUT))  
height = eval(input(HEIGHT_INPUT))  
  
error = False  
errorMessage = "\nError: \n"  
  
if width < WMIN or width > WMAX:  
    error = True  
    errorMessage += "\tWidth (" +str(width) + ") is not within  
    range (" + str(WMIN) + "-" + str(WMAX) + ")\n"  
  
if height < HMIN or height > HMAX:  
    error = True  
    errorMessage += "\tHeight (" +str(height) + ") is not with  
    range (" + str(HMIN) + "-" + str(HMAX) + ")\n"  
  
if error:  
    print(errorMessage)
```

Feb 14, 2012 Sprenkle - CSCI111 7

Caesar Cipher

- Write an encoding/decoding program
 - Encode a message
 - Give to a friend to decode



Mar 1, 2011

Sprenkle - CSCI111

8

Lab 5 Overview

- String Problems
- Encoding

- Broader Issue: Bug Comparison due Friday
- "That was a good review!"
 - Review the bag of tricks/skills we learned over the last week
 - Even better to review each day
 - Some problem will likely require the new trick

Feb 14, 2012

Sprenkle - CSCI111

9