

Lab 4 Feedback

- Better overall
- Took off for insufficient testing, comments
- Overuse of `sys.exit()`
 - Typically, reserved for "unusual" exiting from program
 - E.g., invalid weights and heights for BMI calculation
 - E.g., incorrect use of program (later this semester)
 - Inside of a loop, use `break` instead

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BMI problem

- Compute BMI as a *float* Why is that important?
- Check valid height, weight *before* computing BMI
 - Don't waste time computing if they are invalid
- Most elegant if/else condition:

```
if bmi < 19:
    print "below"
elif bmi > 25:
    print "above"
else:
    print "in range"
```

As opposed to

```
if bmi >= 19 and bmi <= 25 :
    print "in range"
elif bmi > 25:
    print "above"
else:
    print "below"
```

Both are correct

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Partial Student Solution

```
TOO_HEAVY = 400
TOO_LIGHT = 60
TOO_TALL = 84 # 7ft
TOO_SHORT = 36 # 3 ft
```

Well-named constants
Easy to change values
Also explained values (e.g., 7ft)

```
LOW_BMI = 19
HIGH_BMI = 25
```

```
print "Do you know your BMI? You should!\n"
```

```
height = input("How tall are you in inches? ")
# Check for unreasonable input, exit if unreasonable
if height <= TOO_SHORT:
    print "You can't be that short!"
    sys.exit(1)
elif height >= TOO_TALL:
    print "You can't be that tall!"
    sys.exit(1)
```

Good error messages
for unreasonable cases

Checks before user enters weight; less work for user

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Lab 4 Feedback

- Problem 5, if number is divisible by 6
 - Prefer `while num % 6 != 0 :`
to `while not (num % 6 == 0) :`
- Separate blocks of code with *spaces* and comments
 - More important as we write larger programs
 - Especially with graphics programs
- Craps: not printing values of rolls

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Lab 4 Feedback

```
number = 1
while number % 6 != 0:
    number=input("Enter a number ...: ")
    if number % 6 != 0:
        print number, "is not divisible by 6. ... "
```

Checking same condition

```
print number, "is divisible by 6."
```

Change order of statements:

```
number=input("Enter a number ...: ")
while number % 6 != 0:
    print number, "is not divisible by 6. ... "
    number=input('Enter a number ...: ')
print number, "is divisible by 6."
```

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Rainbow Dice

- Student's implementation
 - Much more than I was expecting

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String Review

- How can we find out the length of a string?
- How can we "get" the first character of a string?
- How can we "get" the last 3 characters of a string?
- What are the two ways to iterate through a string?
- How can we tell if some string is part of some other string?

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How Many Numbers Correct?

```
count = 0
# Don't want to count hyphens, so look at
# every other position, starting at 0
for i in xrange(0, len(pickedNum), 2):
    if pickedNum[i] == winningNum[i]:
        count+=1
```

- Why do we have to represent the pickedNum and winningNum as strings?
 - What problem would we run into if we considered them numbers?

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Lab 5 Overview

- Practice Python programming
 - Practice with Graphics API and animation
 - Screen capture using **xv** tool
 - Create a Web page to display artwork
 - String practice
- Don't spend too much time on creating your picture
 - After get good draft, start on the string problems
 - Then go back and perfect your artwork

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