CS 160
CS Orientation

Finish Repetition and Strings
Odds and Ends

• Demo Assignment #4 this week!!!
• Get help early!!!

• Videos:
  – https://code.org/educate/resources/videos

• Visualize your Code:
  http://pythontutor.com/visualize.html#mode=edit
In-class Exercise #4

• Get into groups of 4-5.

• Explain what each of line in this code does and tell me what the output is:

```python
y = 0;
for x in range(10):
    if (x % 2):
        y = y + 1;
print(y);
```

- y = 0; (initialization)
- for x in range(10): (for loop from 0 to 9)
- if (x % 2): (check if x is odd)
- y = y + 1; (increment y if x is odd)
- print(y); (print the value of y)

Output: 5
What happens when you enter bad data?

• Where/when does the error occur?

```python
num = int(input("Enter a positive integer: ")
```
Strings

• Create a string
  my_string="hello";

• Access a character
  my_string[0] #gives you first character

• Length
  len(my_string)
In-class Exercise #4 cont...

• Without using a built-in function to do the checking for you...
  
  – How will you make sure you get a good positive integer from the user?

  # prevent the error from happening
  - don’t always have to catch it when it does
Algorithm to check good positive int...

get input as string
for all chars in my string
  if not (char \geq '0' \text{ and } char \leq '9')
    good positive int
  error msg!
Python Syntax for checking good positive int...

```python
money = input("Enter how much money you have: ");

print(money[0]);
print(len(money));

for x in range(len(money)):
    if(not(money[x] >= '0' and money[x] <= '9')):
        print("You did not enter a good positive int!");
        exit(); # exits out of the program
    #break; # breaks out of the for loop

# if you exit with bad input, then you can convert to int here.

# if you break with bad input, then you need to ask the user for
# input again before moving to outside the for loop to convert
# to int.

if(money > 10): # if we have more than 10 dollars
    print("We are going fancy!");
elif(money > 5): # if we don't have more than 10, but more than 5
    print("We are going subway!");
else: # we don't have more than 5 dollars, default case
    print("Boo hoo, eating at home!");
```