CompSci 101
Introduction to Computer Science

Feb 26, 2015
Prof. Rodger

Announcements
• Reading and RQ11 now due
• APT 5 due Tuesday, Assign 5 due Thursday
• Nothing new out today
• Exam 1 was handed back on Tuesday

Snow day! Classwork instead
• No class today, instead you should work the following problems and enter your answers in the google form bit.ly/101S15-0226
• Feel free to get together with others and work on the problems.
• Suggest you work on them today! But will give you until Sunday midnight to complete.
• The google form will turn off Sunday midnight!

Problem 0:
Set Examples

```python
s = set(lista)  lista = ['apple', 'pear', 'fig', 'orange', 'strawberry']
t = set(listb)  listb = ['pear', 'lemon', 'grapefruit', 'orange']
problem1 = (s-t) | (t-s)
print problem1
problem2 = (s|t) - (s&t)
print problem2
problem3 = (s|t)(s&t))
print problem3
```
Debugging Problems

• Today the focus is on debugging.
• There are several problems. Trace by hand to see if you can figure out if they are correct or not, or what to do to correct them.
• Enter your answers on the google form

Problem 1 – Does it work?
• The function sizes has a parameter named words that is a list of strings. This function returns a list of the sizes of each string. For example, sizes(['This', 'is', 'a', 'test']) should return the list [4, 2, 1, 4]

```python
def sizes(words):
    nums = []
    for w in words:
        nums = len(w)
    return nums
```

Problem 2 – Does it work?
• The function buildword has a parameter words that is a list of strings. This function returns a string that is made up of the first character from each word in the list. For example, buildword(['This', 'is', 'a', 'test']) returns 'Tiat'

```python
def buildword(words):
    answer = ''
    for w in words:
        answer += w[1]
    return answer
```

Problem 3 – Does it work?
• The function middle has a parameter names that is a list of strings, which each string is in the format "firstname:middlename:lastname". This function returns a list of strings of the middlenames.

```python
def middle(names):
    middlelist = []
    for name in names:
        name.split("":"")
        middlelist.append(name[1])
    return middlelist
Problem 4 – Does it work?

• The function removeOs has one string parameter named names. This function returns a string equal to names but with all the lowercase o's removed.

```python
def removeOs(word):
    position = word.find("o")
    while position != -1:
        word = word[:position] + word[position+1:]
    return word
```

Problem 5 – Does it work?

• The function uniqueDigits has one int parameter number. This function returns the number of unique digits in number. If the number is 456655, then it returns 3.

```python
def uniqueDigits(number):
    digits = []
    while number > 0:
        digits.append(number % 10)
        number = number / 10
    return len(digits)
```