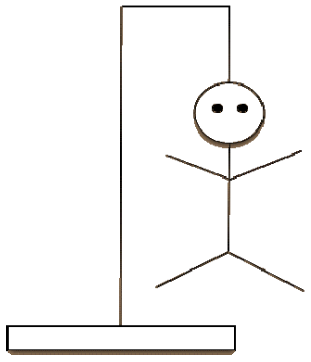
CompSci 101
Introduction to Computer Science



November 18, 2014

Prof. Rodger

Announcements

- Reading for next time on calendar page
  - RQ maybe
- Assignment 7 due Thursday
- APT 9 is out today

- Do not discuss exam until it is handed back

Snarky Hangman

- Demo
- Dictionary of categories
- Start with list of words of correct size
- Repeat
  - User picks a letter
  - Make dictionary of categories based on letter
  - New list of words is largest category
    - Matched letters
    - Letters guessed by not chosen
    - List shrinks in size each time

Regular Expressions

- Powerful language for matching text patterns
- Part of the compiler process
  - Can write a regular expression for each type of word in a programming language
  - Example
    - Key words – if, else, elif, while
    - Integers – 456, 78, 2, -56
    - Float – 3.14, 7856.2345
    - String – ‘word’, “this is a phrase”
    - Special symbols – [ ] + %

Regular Expressions

- a- a
- a* - a repeated 0 or more times
- a+ - a repeated 1 or more times
- a? – a 0 or 1 time, so a is optional
- ^ - match at the beginning of the string
- $ - match at the end of the string
- . – matches anything
- [abc] – match a, b, or c
- [a-z] – match any character from a to z
- [^a] – match any character but a

More on regular expressions

- | - or
- \b - word boundary
- \s - whitespace character
- \d – match any digit
- When using backslashes – must use r in front of string

Regular expressions with re

- import re
- re.sub(pattern, repl, str) – return string that replaces the pattern matches with repl in string str – looks from left end of string
- re.compile() – create a pattern
- re.findall()
- See code examples

More on sort

- Import operator
  - fruit = [("pear",5),("apple",9)]
    - fruit = sorted(fruit)
    - fruit.sort()   OR   fruit = sorted(fruit)
  - arguments
    - key=itemgetter(0)
    - reverse=True