Strings

September 6, 2016

Administrative Stuff

Assignment 1 due tomorrow
Assignment 2 posted soon
Please make sure that you’re getting comfortable with some C development environment.
ACM

Last Time

- booleans as integers
- extra importance of = vs ==
- arrays
  - what they are in Java, C
  - out of bounds accesses
  - no length field
  - passing to functions
- getchar(), putchar()
- EOF
- man
- shell redirection: <, >
- “file” copier
- char count
- line count

word counter

- counting spaces doesn’t work
- counting transitions?
Strings

- Java Strings
  - objects
    - data
    - methods
  - read only
  - automatic allocation of space
- C strings:
  - arrays of char
  - terminated by '\0' (null character)
  - not read only
  - you have to allocate space

Java API
http://docs.oracle.com/javase/8/docs/api/

- C string API
  - string.h
  - finding what's there:
    - man pages
    - Google
    - appendix of K&R
  - many other APIs exist
  - a sample:
    ```c
    char *stpcpy(char *dst, const char *src);
    char *strcat(char * s1, const char *s2);
    char *strchr(const char *s, int c);
    int strcmp(const char *s1, const char *s2);
    char *strcpy(char *s1, const char *s2);
    size_t strcspn(const char *s1, const char *s2);
    char *strerror(int errnum);
    size_t strlen(const char *s);
    char *strncat(char * s1, const char *s2, size_t n);
    ...
    ```

Experimenting with Strings

- creating with double quotes.
- printing
- modifying individual characters
- is '\0' really there?
- creating with array notation
- what happens when we forget '\0'?