Outline for May 22, 2002

Handouts:*none*
Reading: Johnsonbaugh and Kalin, pp. 679–702 (appendix of useful functions)

1. Greetings and felicitations!
2. Example program: binary tree
3. Libraries
   a. compiling with libraries
   b. common libraries: stdio, ctype
4. Standard I/O Library (#include <stdio.h>)
   a. open file: fopen
   b. unstructured read/write: getchar, fgetc (getc), putchar, fputc (putc)
   c. formatted read/write: fgets (gets), fscanf, fputs (puts), fprintf
   d. structured read/write: fread, fwrite
   e. random access: fseek, ftell, rewind
   f. close file: fclose
   g. miscellaneous: feof, ferror, clearerr
5. Character types and conversions (#include <ctype.h>)
   a. alphabetics, numerics, alphanumerics: isalnum, ialdigit, isxdigit, isalpha
   b. ypper, lower, and conversions: isupper, islower, toupper, tolower
   c. types of chars: iscntrl, isgraph (not blank, printable), isprint (printable), ispunct, isspace
6. String conversion (#include <stdlib.h>)
   a. string to number: atoi, atof, atol
7. String functions (#include <string.h>)
   a. compare: strcmp, strncmp, strcasecmp, strncasecmp; memcmp
   b. copy: strcpy, strncpy; memcpy (no overlap), memmove (overlap okay)
   c. find character: strchr (index), strrchr (rindex), strpbrk; memchr
   d. length: strlen
8. Memory management (#include <stdlib.h>
   a. Allocation: malloc, calloc
   b. Release: free, cfree (deprecated)
   c. Reallocation: realloc()
9. Miscellaneous
   a. terminate program (exit); include <stdlib.h>
   b. sort array of data (qsort); include <stdlib.h>
   c. time of day (time, ctime); include <time.h>
   d. execute cvommand (system); include <stdlib.h>