

CAAM420: Daily Notes

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1 Importance of Function Pointers

Function pointers—will address later.
pass one function to another function.

2 File Topics

There are 3 standard files,
and they are always open.
stdout—buffered terminal output(more efficient when storing and outputing)
printf(.....) is the same as fprintf(stdout(file pointer),.....)

stderr—unbuffered terminal output
fprintf(stderr,.....)—ideal for debugging, use this form of print to see how your program runs.

stdin=buffered input from keyboard.
scanf(...)= fscanf(stdin,....)

3 Types of header/source file

.h= header/include/declaration file
.c=source file/ definition

4 How #include works

#include: only include the declaration that are needed , not everything in the file included

5 Linker Error

from the gcc cvector.c example:
error: undefined reference to main: linker error
compilation is successful but it shows a linker error.
to solve this problem: gcc -c cvector.c

().c—main program file-uses
declarations from .h
definitions from .c

```
gcc test.c
error: undefined reference to ??.
loader complains compiler is fine
ld means linker/ loader
when there is an ld error, there is problem of linking the two functions. One part of the program could
not find another part of the program.
gcc -c text.c—to produce the object file
gcc test.o cvector.o—calls linker to link the object files together
then a.out will appear.
gcc test.o cvector.o -lm—to reference the math library
or
gcc test.c cvector.c
gcc test.o cvector.o
```

6 Simplify Commands with a Script

make command lines in text so you can use it later
example
emacs -nw cscript
 gcc -c cvector.c
 gcc -c test.c
 gcc test.o cvector.o -o test
source cscript—execute all your commands in cscript
or
.cscript
can make script with any names.

in the script
 cvector.o: cvector.c —.o file depends on .c file
 (tab at the beginning of the line)gcc -c cvector.c
in the shell:
make cvector.o
 cvector.o is up to date—renewed
ls -l—can see date stamps on the files to see if they are updated.

7 Different Types of Shell Programs

original shell: sh
berkeley version: csh
the shell we are using : bash—source and . are synonyms