CSI 333 – Systems Fundamentals

Lab 7 – Kernel Files

Your assignment, part 1:

Write a program that creates an array of 100 random numbers from 0-99.
The program sums the random numbers and prints the sum.
It then writes the numbers to a new file **using open, close and write**.

Other requirements:

(a) *Input*—The program has no input data (it uses standard function to generate sequence of random numbers).

(b) *Output*—The program prints the sum of the array. The program creates a file called numbers.XXXX where XXXX is the sum of the numbers in the file.

(c) *Program structure*—The program has needs only one function: `int main(void)`

Hints:
Remember to initialize any sum variable to 0

rand() will return a random number too big for 0-99. Use modulo to reduce the range.

rand() needs to be initialized with a seed. You can use: srand(time(0));

Your assignment, part 2:

Write a program that looks in the current directory for files that match the pattern "numbers.XXXX".
Use opendir(), readdir(), closedir() for this.
For each file, open the file and read the file.
You can assume that the file will contain 100 integers. Sum the integers.
Print the filename and the sum of the integers.

Hints:
Main can loop over the directory; make a function to deal with open/read/sum/print/close.
You need to loop over the directory entries. This is similar to walking a linked list.
You want to check every file entry to see if it starts with "numbers."