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// CS332
// Lab 11
// 4/14/20
// This program prompts users to enter a UNIX command
// and executes the command using popen and pclose.

// TO COMPILE: gcc lab11.c -o lab11
// TO RUN: ./lab11

#include <stdio.h>
#include <stdlib.h>
#include <string.h>

int main(int argc, char **argv) {
    FILE *fp;
    char line[BUFSIZ];
    char input[BUFSIZ];
    int length;

    // keep asking the user for input until they enter "quit"
    while((strcmp("quit", input) != 0)){

        // printing "Enter command"
        printf("Enter command: ");

        // storing the line the user entered into input string
        fgets(input, BUFSIZ, stdin);

        length = strlen(input);

        // getting rid of new line character at the end
        if(input[length-1] == '\n')
            input[length-1] = '\0';

        // making sure it doesnt execute "quit" command
        if((strcmp("quit", input) != 0)){

            // opening popen in read mode
            if ((fp = popen(input, "r")) == NULL) {
                perror("popen");
                exit(EXIT_FAILURE);
            }

            // displaying popen results to standard out
            while (fgets(line, BUFSIZ, fp) != NULL) {
                fputs(line, stdout);
            }

            // closing the file pointer
            if (pclose(fp) == -1) {
                perror("pclose");
                exit(EXIT_FAILURE);
            }
        }
    }

    printf("Exiting program...bye! \n");

    return 0;
}
```