

Assignment 5 – Buffered I/O

Description:

This assignment is to write a C program that accepts arguments via the command line and then displays each of those arguments to the terminal along with how many arguments there are.

The assignment was to finish writing three functions left for us to do, which were:

1. `b_io_fd b_open`
2. `b_read`
3. `b_close`

and were given instructions on what and how each function should work and what it should be doing.

Approach:

I began the assignment with what I believed I already knew how to do, as last assignment we did open a file so I started with `b_open`. Of course, this assignment was not the same as the last so I did have to change a few things around and also had to think of opening 20 files at a time and such. From there I tried to refer back to the previous assignment as some things were similar but again, I had to tweak a lot of things to get it to work.

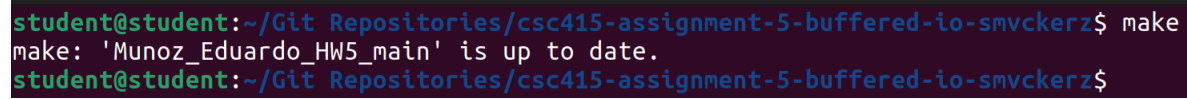
Issues and Resolutions:

1. My first issue was opening the files. I was passing the `GetFileInfo` into a `int` and I was getting a no targets specified error when trying to run the program
 - a. I resolved it by passing the function `GetFileName()` function into `fi`, in the `strut`.
2. My second issue was not allocating memory for the buffer and isn't printing out the full documents.
 - a. I resolved this by allocating memory for buffer by using a pointer and using `malloc`
3. My third issue was not giving enough size for the buffer length an
 - a. I resolved it by allocating enough space, by declaring `B_CHUNK_SIZE` with 512.
4. My fourth issue was not having a static array. When I tried running the program I kept getting: segmentation fault error code.
 - a. I resolved this by creating a static array and being able to track the multiple open files that the program will open

Analysis:

No analysis required

Screen shot of compilation:

A terminal window with a dark background and light-colored text. The prompt is 'student@student:~/Git Repositories/csc415-assignment-5-buffered-io-smvckerz\$'. The user enters 'make'. The output is 'make: 'Munoz_Eduardo_HW5_main' is up to date.' followed by a new prompt line.

```
student@student:~/Git Repositories/csc415-assignment-5-buffered-io-smvckerz$ make
make: 'Munoz_Eduardo_HW5_main' is up to date.
student@student:~/Git Repositories/csc415-assignment-5-buffered-io-smvckerz$
```

Screen shot(s) of the execution of the program:

```
student@student:~/Git Repositories/csc415-assignment-5-buffered-io-smvckerz$ make run
./Munoz_Eduardo_HW5_main DATA DecOfInd.txt CommonSense.txt
The unanimous Declaration of the thirteen united States of America, When in the Course
of human events, it becomes necessary for one people to dissolve the political bands wh
ich
  pages, are not yet
sufficiently fashionable to procure them general favor; a long hab
have connected them with another, and to ass
it
of not thinking a thing wrong, gives it a
ume among the powers of the earth, the separate and equal station to which
superficial appearance of
being right, and raises at first a formidable outcry in defens
the Laws of Nature and of Nature's God _nt
e of
custom. But the tumult soon subsides. Time makes more converts than
reason.

A
title t_em, a decent respect to the opinions of mankind r
s a long and violent abuse of power, is generally the Means of ca
requires that they should declare the c_uses which i
lling
the right of it in question (and in Matters too which might never
mpel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are
endowed by their Creator with certain unalienable Rights, that among these are Life,
Liberty and the pursuit of Happiness.--That to secure these rights, Governments are in
stituted among Men, deriving their just powers from the consent of the governed, --Tha
t whenever any Form of Government becomes destructive of these ends, it is the Right o
f the People to alter or to abolish it, and to institute new Government, laying its fo
undation on such principles and organizing its powers in such form, as to them shall s
eem most likely to e
have
been thought of, had not the Sufferers been aggravated into the inquiry)
and as the King of England hath undertaken in his own Right, to support
the Parliament in what he calls Theirs, and as the good people of this
country are grievously oppressed by the combination, they have an undoubted
privilege to inquire into the pretensions of both, and equally to reject the
usurpation of either.

In the following sheets, the author hath studiously avoided every thing
which is personal among ourselves. Compliments as well as censure to
individuals make no part thereof. The wise, and the worthy, need not the
triumph of a pamphlet; and those whose sentiments
ffect their Safety and Happiness. Prudence,
```

which is personal among ourselves. Compliments as well as censure to individuals make no part thereof. The wise, and the worthy, need not the triumph of a pamphlet; and those whose sentiments affect their Safety and Happiness. Prudence, are injudicious, or unfriendly, will cease of themselves unless too much pains are bestowed, indeed, will dictate that Governments long established should not be towed upon their conversion.

The cause of
changed for light and transient causes;
of America is in a great measure the cause of all mankind. Many circumstances hath, and will
and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object, evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for the safety of themselves and the rest of all Mankind, and extirpating the Defenders thereof from the Face of the Earth, it is the Concern of every Man to whom Nature hath given the Power of Reason, to watch the Progress of these Evils, and by the firmest Correlation of Sentiments to oppose Violence to Violence. --Such has been the patient Sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world.

He has refused his Assent to Laws, the most wholesome and necessary for the public good.

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public good.

He has forbidden his Governors to pass Laws of imm
ediate and pressing importance, unless suspended in their operation till his Assent sh
ould
be obtained; and when so suspended, he has utterl
y neglected to attend to them.

He has refused to pass other Laws for the accomm
odation of large districts of people, unless
those people would relinquish the right of Repr
esentation in the Legislature, a right inestimable to them and formidable
to tyrants only.

He has called together legislative bodies at place
s unusual, uncomfortable, and distant from the depository of th
eir public Records, for the sole purpose of fatiguing them into co
mpliance with his measures.

He has dissolved Representative Houses repeated
ly, for opposing with manly firmness his invasions on the rights of the
people.

He has refused for a long time, after such dissolutions,
to cause others to be elected; whereby the Legislative pow
ers, incapable of Annihilation, have returned to the People at
large for their exercise; the State remaining in the mean time exposed to all the dang
ers
of invasion from without, and convulsions within.

He has endeavoured to prevent the
population of these States; for that purpose obstructing the Laws for Naturaliz
ation of Foreigners; refusing to pass others to encourage their migrati
ons hither, and raising the conditions of new Appropriations of Lan
ds.

He has obstructed the Administration of Justice, by refusing his Assent to La
ws for establishing Judiciary powers.

He has made Judges dependent on his Will
alone, for the tenure of their offices, and the a
mount and payment of their salaries.

He has erected a multitude o
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He has kept among us, in times of peace, Standing Armies without the Consent of our legislatures.

He has affected to render the Military independent of and superior to the Civil power.

He has combined with others to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws; giving his Assent to their Acts of pretended Legislation:

For Quartering large bodies of armed troops among us:

For protecting them, by a mock Trial, from punishment for any Murders which they should commit on the Inhabitants of these States:

For cutting off our Trade with all parts of the world:

For imposing Taxes on us without our Consent:

For depriving us in many cases, of the benefits of Trial by Jury:

For transporting us beyond Seas to be tried for pretended offences

For abolishing the free System of English Laws in a neighbouring Province, establishing therein an Arbitrary government, and enlarging its Boundaries so as to render it at once an example and fit instrument for introducing the same absolute rule into these Colonies:

For taking away our Charters, abolishing our most valuable Laws, and altering fundamentally the Forms of our Governments:

For suspending our own Legislatures, and declaring themselves invested with power to legislate for us in all cases whatsoever.

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He has abdicated Government here, by declaring us out of his Protection and waging War against us.

He has plundered our Seas, ravaged our Coasts, burnt our towns, and destroyed the lives of our people.

He is at this time transporting large Armies of foreign Mercenaries to compleat the works of death, desolation and tyranny, already begun with circumstances of Cruelty & perfidy scarcely paralleled in the most barbarous ages, and totally unworthy the Head of a civilized nation.

He has constrained our fellow Citizens taken Captive on the high Seas to bear Arms against their Country, to become the executioners of their friends and Brethren, or to fall themselves by their Hands.

He has excited domestic insurrections amongst us, and has endeavoured to bring on the inhabitants of our frontiers, the merciless Indian Savages, whose known rule of warfare, is an undistinguished destruction of all ages, sexes and conditions.

In every stage of these Oppressions We have petitioned for Redress in the most humble terms: Our repeated Petitions have been answered only by repeated injury. A Prince whose character is thus marked by every act which may define a Tyrant, is unfit to be the ruler of a free people.

Nor have We been wanting in attention or obedience to our British brethren. We have warned them from time to time of attempts by their legislature to extend an unwarrantable jurisdiction over us. We have reminded them of the circumstances of our emigration and settlement here. We have appealed to their native justice and magnanimity, and we have conjured them by the ties of our common kindred to disavow these usurpations, which, would inevitably interrupt our connections and correspondence. They too have been deaf to the voice of justice and of consanguinity. We must, therefore, acquiesce in the necessity, which denounces our Separation, and hold the rest of mankind, Enemies in War, in Peace Friends.


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```
We, therefore, the Represent  
atives of the united States of America, in General  
Congress, Assembled, appealing to the Suprem  
e Judge of the world for the rectitude of our intentions, do, in the Name, and by Auth  
or  
ity of the good People of these Colonies, solemnly pub  
lish and declare, That these United Colonies are, and of Right ought to be Free a  
nd Independent States; that they are Absolved from all  
Allegiance to the British Crown, and that all political connection between them  
and the State of Great Britain, is and ought to be totally disso  
lved; and that as Free and Independent States, they ha  
ve full Power to levy War, conclude Peace, contract Allia  
nces, establish Commerce, and to do all other Acts and Things which Independent  
States may of right do. And for the support of this Declaration, with a fi  
rm reliance on the protection of divine P  
rovidence, we mutually pledge to each other our Lives, our Fort  
unes and our sacred Honor.
```

```
We have read 8120 characters from file DecOfInd.txt  
We have read 1877 characters from file CommonSense.txt  
student@student:~/Git Repositories/csc415-assignment-5-buffered-io-smvckerz$ s. Pruden  
student@student:~/Git Repositories/csc415-assignment-5-buffered-io-smvckerz$ s. Pruden  
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