Andrew Baca
CS 471
October 29th 2018

File Conversion – Removing Control Blocking Date From Files

Purpose: This Programming assignment is meant to delete extraneous data from a file that was added on by a file "backup" program. The pattern of unwanted data occurs in between, and including, control-C and control-B. The three programming languages that we implemented this data removal in is JAVA, PERL, and PYTHON. The files were read out of control-char.txt and written into update.txt in each program.

Implementation:

JAVA:

```
/*****************************************************************************************************************************************************
*
* Andrew Baca
* CS 471
*
* controlBLock.java
* Purpose: This program will read in a text file, and remove any extraneous data that the file inherited through a "backup" program,
*          and close the file.
*
* note: code retrieved from http://www.java2s.com/Code/Java/File-Input-Output/Readfilecharacterbycharacter.htm
*
*****************************************************************************************************************************************************/
import java.io.File;                            //include IO libraries for file handling
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;

public class controlBlock {
  public static void main(String[] args) {
    File file = new File("control-char.txt");           //declare 2 file objects
    File file0  = new File("update.txt");
    boolean flag = true;

    if (!file.exists()) {
      System.out.println("file does not exist.");               //error message for file if doesnt exist
      return;
    }
    if (!(file.isFile() && file.canRead())) {                   //error message for file readability
      System.out.println(file.getName() + " cannot be read from.");
      return;
    }
    try {
      FileInputStream fis = new FileInputStream(file);          //start file stream to read
      FileOutputStream fos = new FileOutputStream(file0);       //start file stream to write
      char current;
      int asciiVal;
      while (fis.available() > 0) {
        current = (char) fis.read();                            //get single char
        asciiVal = (int) current;                               //convert to ascii int
        if(asciiVal == 2 || asciiVal == 3)                      //set flag if controls are ran into
        {
                if(asciiVal == 2)
                        flag = true;
                if(asciiVal == 3)
                        flag = false;
        }
        if(flag == true && asciiVal != 2){                      //print values to new file given flag
                //System.out.print(asciiVal + " ");
                //System.out.println(current);
                fos.write(current);
        }
      }
    } catch (IOException e) {
      e.printStackTrace();
    }

  }
}
```

PERL:

```
#################################################################################################################
#
# Andrew Baca
# controlBlock.pl
# October 29th, 2018
#
# CS 471
# Purpose: this program removes unwanted data from the text file in the pattern of control-C to control-B
#          and everything in between
#
#################################################################################################################

open FILE1, "control-char.txt" or die $!;                       #open or kill readable file
open(FH, '>', "update.txt") or die $!;                          #open or kill writable file
my ($buf, $data, $n, $hold, $flag);                             #declare and instantiate variables
$flag = 1;
while (($n = read FILE1, $data, 1) != 0)                        #while loop to read through file
{
        print "$data read ";                                    #print char to terminal
        $buf .= $data;                                          #print companion ascii value to terminal
        $hold = ord($data);
        print "$hold \n";
        if($hold == 2 || $hold == 3){                           #set flags correspondingt to controls
                if($hold == 2){
                        $flag = 1;
                        #print "*************";
                }
                if($hold == 3){
                        $flag = 0;
                }
        }
        if($flag == 1 && $hold != 2){                           #if correct flag set, write to file
                print FH $data;
        }

}
close(FILE1);                                                   #close files
close(FILE2);
```

PYTHON:

```
#################################################################################################################
#
# Andrew Baca
# October 29th, 2018
# controlBlock.py
# CS471
#
# Purpose: this program removes unwanted data from the text file in the pattern of control-C to control-B
#          and everything in between
#
#################################################################################################################
import sys                                              #import to write in terminal without newlines unless triggered
flag = 1;                                               #declare flag, set to 1
fw = open("update.txt", "w")                            #open file to write to
with open("control-char.txt") as f:                     #open file to read from
        while True:                                     #loop while input
                c = f.read(1)                           #read in single char
                ascii = ord(c)                          #convert char to ascii

                if not c:                               #THROW eof ERROR MESSAGE
                        print "End of file"
                        break

                if(ascii == 2 or ascii == 3):           #set flags according to controls
                        if(ascii == 3):
                                flag = 0
                        if(ascii == 2):
                                flag = 1

                if(flag == 1 and ascii != 2):           #write to file based on flag val
                        sys.stdout.write(c)
                        fw.write(c)
```

Output:

JAVA:

Open

update.txt
~/CS471/fileConvers

```
This is line 1 This is line 1 This is line 1
This is line 2 This is line 2 This is line 2
This is line 3 This is line 3 This is line 3 A
This is line 4 This is line 4 This is line 4
This is line 5 This is line 5 This is line 5
This is line 6 This is line 6 This is line 6
This is line 7 This is line 7 This is line 7
This  is line 8 This is line 8 This is line 8 A
This is line 9 This is line 9 This is line 9
This is line 10 This is line 10 This is line 10
This is line 11 This is line 11 This is line 11
This is line 12 This is line 12 This is line 12
This is line 13 This is line 13 This is line 13
This is line 14 This is line 14 This is line 14
This is line 15 This  is line 15 This is line 15 B
This is line 16 This is line 16 This is line 16
This is line 17 This is line 17 This is line 17
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This is line 45 This is line 45 This is line 45
This is line 46 This is line 46 This is line 46
This is line 47 This is line 47 This is line 47
This is line 48 This is line 48 This is line 48
This is line 49 This is line 49 This is line 49  C
This is line 50 This is line 50 This is line 50 D
```

PERL:

Open

update.txt
~/CS471/fileConvers

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This is line 1 This is line 1 This is line 1
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This is line 48 This is line 48 This is line 48
This is line 49 This is line 49 This is line 49  C
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PYTHON:

Open

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