

Problem description:

The problem that was given to me was that we were given a “backup” file with “corrupt” data and were tasked with extracting only the non-corrupt data. The corrupt data always starts with ^C and always ends with ^B. To add to the complexity, there may be more than one ^C after a ^C. So I have to output everything in the file except if it is between ^C and ^B. I am to solve this problem three times using three languages Perl, Java and Python.

PYTHON:

```
Lab6 > PyLab6.py > ...
1  # Name: Joey Troyer
2  # Date: 10/19/22
3  # input: file "control-char.txt"
4  # output: Prints non-corrupt content from file to terminal
5  # problem: Read in a txt file and print only the characters before ^C aka (control C) and after ^B aka (control B) .
6  #           All characters inbetween ^C and ^B are skipped
7
8  #open file as an object
9  with open('control-char.txt', "r") as openfileobject:
10     flag = 0;
11
12     #gets each line from object then gets each char from line
13     for line in openfileobject:
14         for char in line:
15
16             #check if char is ^C
17             if (char == '\x03') and flag == 0:
18                 flag = 1
19
20             #check if char is ^B
21             if (char == '\x02') and flag == 1:
22                 flag = 0
23
24             #if char not inbetween ^C and ^B print to screen
25             if(flag == 0):
26                 print(f"{char}",end='')
27
```

```
jtroyer@granville:~/CS471/Lab6> python3 ../PyLab6.py
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
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jtroyer@granville:~/CS471/Lab6>
```

PERL:

```
Lab6 > PerlLab6.pl
1  # Name: Joey Troyer
2  # Date: 10/19/22
3  # input: file "control-char.txt"
4  # output: Prints non-corrupt content from file to terminal
5  # problem: Read in a txt file and print only the characters before ^C aka (control C) and after ^B aka (control B)
6  #           All characters inbetween ^C and ^B are skipped
7
8  $flag = 0;
9  open (fp, "control-char.txt");
10
11 #read char by char until end of file
12 until (eof(fp)) {
13     $char = getc(fp);
14
15     #check if char is ^C
16     if($char eq '^C' && $flag == 0) {
17         $flag = 1;
18     }
19
20     #check if char is ^B
21     if($char eq '^B' && $flag == 1) {
22         $flag = 0;
23     }
24
25     #if char is not in between ^C and ^B print to screen
26     if($flag == 0) {
27         print "$char";
28     }
29 }
30 }
```

```
jtroyer@granville:~/CS471/Lab6> perl ./PerlLab6.pl
This is line 1 This is line 1 This is line 1
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jtroyer@granville:~/CS471/Lab6>
```

JAVA:

```
Lab6 > J JavaLab6.java
1  // Name: Joey Troyer
2  // Date: 10/19/22
3  // input: file "control-char.txt"
4  // output: Prints non-corrupt content from file to terminal
5  // problem: Read in a txt file and print only the characters before ^C aka (control C) and after ^B aka (control B)
6  //          All characters inbetween ^C and ^B are skipped
7
8  import java.io.BufferedReader;
9  import java.io.File;
10 import java.io.FileReader;
11 import java.io.IOException;
12
13 public class JavaLab6 {
14
15     public static void main(String[] args) throws IOException {
16
17         //open file
18         File f=new File("control-char.txt");
19         FileReader fr=new FileReader(f);
20         BufferedReader br = new BufferedReader(fr);
21
22         int c = 0;
23         int flag = 0;
24
25         //read in int by int and cast to a character
26         while((c = br.read()) != -1) {
27             Character chars = (char) c;
28
29             //check if character is ^C
30             if (chars.equals('^C') && flag == 0)
31                 flag = 1;
32
33             //check if character is ^B
34             if (chars.equals('^B') && flag == 1)
35                 flag = 0;
36
37             //if character not inbetween ^C and ^B print to screen
38             if(flag == 0)
39                 System.out.print(chars);
40         }//end while
41
42     }//end main
43 }//end class
```

[illegible]