CIS 212: Project #2E
Assigned: October 18, 2018
Due: October 23, 2018
(which means submitted by 6am on October 24, 2018)
Worth 3% of your grade

Assignment:

1) Write a C program parses three strings.
    a. String #1: an integer. You need to construct this integer by reading one character at a time.
    b. String #2: an operation. These will all be single character strings. The valid operations are + or -.
    c. String #3: an integer. (Same as String #1)
2) After parsing the 3 strings, you should perform the desired operation (+ or -).
3) Print the output of the operation.

Q: HOW IS THIS DIFFERENT THAN 2C?
A: a lot of inputs will be wrong. You need to deal with bad inputs. You can see the bad inputs I throw out at you in check_2e.

Q: WHAT SHOULD I DO IF I GET BAD INPUTS?
A: you should output the string corresponding to the bad input. Note that the correct strings can be found in check_2e.

This project will be graded by:

1) Running the Unix script "check_2e". It is available on the course website.

If the diff program shows any difference, you will get less than half credit.

What should you upload?: Just a single file, which is your C source code.

TIPS:

Negative numbers are tricky. My advice: check the first character to see if it is a minus sign. If so, remember that (by setting a variable like num1IsNegative) and then start your string processing at number1[1] (or number2[1]). And then multiply the result at the end by -1.

In C, the logical "or" is "||"

```
int cond1 = 0;
int cond2 = 1;
if (cond1 || cond2)
{  … }
```

In C, the logical “and” is “&&”
If (cond1 && cond2)
{ …}

In C, you can multiply a variable X by -1 as “X *= -1;”

Parsing a string is hard enough that you should have one function, and send number1 and number2 into that function. (Don’t duplicate your code twice in main.)

I made my own “strlen” function to check for the case where there are more than 10 digits. And I didn’t bother to do special handling for negative numbers. Meaning my (sloppy) code would issue an error if there were 10 digits and a minus, since it is counting the minus as a digit.

When I find an error condition, I use this C code to print and exit (with the appropriate messages):

```
{
    printf("ERROR: operation may only be + or –\n");
    exit(EXIT_FAILURE);
}
```