CSCE 240 HOMEWORK 1 DUE: SUN 17 MAY 2020

You shall submit a zipped, **and only zipped**, archive of your homework directory, hw1. The directory shall contain, at a minimum, the file `hw1/base_decomposer.cc`. Your submission file must be named hw1.zip.

I will use my own makefile to make your `base_decomposer.cc` file. Do not use a header for this assignment. My grader will not look for one.

Introduction

The most common representation of quantities in base-10 is the power series positional counting system. In this system, 123,456 represents the power series

$$1 \times 10^5 + 2 \times 10^4 + 3 \times 10^3 + 4 \times 10^2 + 5 \times 10^1 + 6 \times 10^0$$

OR

$$100000 + 20000 + 3000 + 400 + 50 + 6$$

The same value presented in negative magnitude -123,456, might be

$$-(100000 + 20000 + 3000 + 400 + 50 + 6)$$

Description

Develop a small application for me which will produce output in the second form–that is:

$$100000 + 20000 + 3000 + 400 + 50 + 6$$

OR

$$-(100000 + 20000 + 3000 + 400 + 50 + 6)$$

Without prompting, read input from STDIN as a signed integer value. Extract each place of the integer and print the conversion to STDOUT.
I provided you with a test file to test your code. You should ensure that your code satisfies the tester's requirements. It is the tool I will use to grade your submissions. I will only change the input and expected values.
To utilize the tester, you will need access to a python3 interpreter. The tester can be called as follows, assuming that `python3` is in your path and that your present working directory is `../hw1`

```
python3 test_decomposer 1
python3 test_decomposer 2
```

Point Awards

Compilation: 1 point

Test 1: 1 point

Test 2: 1 point

Style, Format, and Documentation: 2 points

I have provided you a make file. You should definitely read the makefile and I would encourage you to read the python tester.

I am unable to accept late assignments in this Summer Schedule.

Check your syllabus for further breakdown of grading.

The End.