Integer math q3

# Revision history

V 1.0: initial release

# usage history

# problem description

1. Have the user enter an integer and print the last digit of that integer to the screen. There are at least two ways to do this. Solve this problem both ways.
2. Have the user enter an integer that has exactly three non-zero digits. Output each digit to the screen, one per line.
3. Have the user enter an integer that has exactly three non-zero digits. Reverse the digits and store the results in an integer. Add it to the original integer and print the results to the screen. For example, if I enter 567, the reversed integer is 765, and their sum would be 1332, which gets output to the screen.

# Solution

Part a:

#include <iostream>

**using** **namespace** std**;**

int main**()**

**{**

int x**;**

cout **<<** "Enter an integer: "**;**

cin **>>** x**;**

//using modulo

cout **<<** x **%** 10**;**

//using integer division. Note: this is not a good way to do this!

int lastDigit **=** x **-** **(**x**/**10**)\***10**;**

cout **<<** lastDigit**;**

**}**

Part b:

We are going to use the modulo operator, which makes for far more compact code.

#include <iostream>

**using** **namespace** std**;**

int main**()**

**{**

int x**;**

cout **<<** "Enter an integer: "**;**

cin **>>** x**;**

int digit1**,** digit2**,** digit3**;**

digit1 **=** x**%**10**;**

x **=** x**/**10**;** //need to remove that last digit to simplify matters

digit2 **=** x**%**10**;**

x **=** x**/**10**;**

digit3 **=** x**;**

cout **<<** digit1 **<<** endl**;**

cout **<<** digit2 **<<** endl**;**

cout **<<** digit3 **<<** endl**;**

**}**

Part c:

#include <iostream>

**using** **namespace** std**;**

int main**()**

**{**

int x**;**

cout **<<** "Enter an integer: "**;**

cin **>>** x**;**

int digit1**,** digit2**,** digit3**;**

digit1 **=** x**%**10**;**

x **=** x**/**10**;** //need to remove that last digit to simplify matters

digit2 **=** x**%**10**;**

x **=** x**/**10**;**

digit3 **=** x**;**

int reversedX **=** 100**\***digit1 **+** 10**\***digit2 **+** digit3**;**

cout **<<** x **+** reversedX**;**

**}**

# suggested test cases

* None. Since this involves only integers and their digits, the students should predict their output by hand first.

# required topics

* Integer division
* Modulo