Problem Set I: Math Tricks

CPE 101: Fundamentals of Computer Science
Winter 2019 - Cal Poly, San Luis Obispo

Purpose

To practice using arithmetic operators, as well as the input and print functions.

Implementation

For the following problems, "choosing a number" involves calling the `input` function to prompt the user for a number. You should assume the user will enter a valid number required by each problem and thus do not need to check it.

For each problem, only use the following prompt:

```
"Enter a number: "
```

At the end of each problem, use the `print` function to display the result as an integer. You will want to use the built-in `int` to convert strings to integers, as well as the `min` and `max` functions for some parts of this assignment. Other than that you only need to use arithmetic operations.

The following math tricks were written by Arthur Benjamin of Harvey Mudd College.

Problem I

Choose a number from 1 to 20. Double it, add 10, divide by 2, and then subtract the number you started with.

Problem II

Choose any two numbers, storing each in a variable. Add those numbers and store this sum in a new variable. Add the second chosen number and the previous sum and store this new sum in a new variable. Continue this process of adding the most recent two variables until you have 10 variables total, including the initial two. Now add up the 10 variables and divide by the number in the 7th variable.

Problem III

Choose a four-digit number, with each digit different. Create a new number with the first and last digits of the previous number swapped. Subtract the smaller number from the larger and add

together the digits of the resulting number, then add the two digits together (if the sum is only one digit, zero can be added).

Problem IV

Choose a number from 1 to 50 that is **not** divisible by 7 and then divide it by 7. Now add up the first six digits after the decimal point.

Submission

The submission for this assignment requires that the following line be placed at the top of your code (below the header):

```
if __name__ == "__main__":
```

All code must then be indented below this line.

On a CSL server with `pset1.py` in your current directory:

```
handin tkuboi 101-lab1 pset1.py
```