PROBLEM OF THE WEEK #7
(Fall 2020)

A **chunk** of an integer n is a sequence of zero or more consecutive digits taken from the base-10 representation of n. For example, the chunks of 4216847 include 168, 84, 4216847, and 1, but not 9 or 4187.

Prove that if m and n are integers with at least 10 digits, then m and n contain chunks (not both empty) whose digits have the same sum.

[Please fully explain your answer.]

Email your solution to `kwonmi@uwplatt.edu` by 4:00 P.M. on Wednesday, November 4, 2020 .

Every week, the best solution submitted earns a $10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!

You can always see the Problem of the Week (and complete rules) online at:

`http://uwpmath.weebly.com/`