

Solution to Wolpack M6 April Problem

Zach Clawson, zdclawso@ncsu.edu
Mathematics, Freshman

Problem:

There is a sequence of numbers (written as a column):

1
11
21
1211
111221
312211
13112221
...

Figure out what the next number in the sequence is.

Solution:

The solution to this is trivial. Clearly, we start with the number 1. The next number can be read (from left to right) as one 1 equals 11. The next number can be read as two 1's equals 21. Next, one 2, one 1 equals 1211. Continue the sequence as follows. We're concerned with the last number:

The last number is 13112221. Thus we group it as one 1, one 3, two 1's, three 2's, one 1. This translates to the number 1113213211.

∴ The next number in the sequence is 1113213211.

Q.E.D.