

2015-16 University of Utah Undergraduate Problem Solving Contest

Problem 1

Due 22
Sep, 2015

Consider the sum

$$\begin{array}{r} \text{M A J O R} \\ + \text{M I N O R} \\ =\text{R E S U M E,} \end{array}$$

Where each letter in the equation represents a numerical digit, different letters representing different digits. What is the largest number that RESUME can represent and still have the equation be true? (Note: There are 10 different letters in this sum, so all of the digits 0-9 will be used in the solution.)

In the spirit of UPSC, you should not use the internet or look up the solution in a book. Please include your name, student ID number, and email address on your solution. Grading will proceed more quickly if your final answer is written clearly at the beginning of the first page of your solution, followed by your reasoning.