Problem of the Week
Problem C
The Biggest

$ABC$ is a three-digit integer whose first digit is $A$, second digit is $B$ and third digit is $C$. Similarly, $DEF$ is a three-digit integer whose first digit is $D$, second digit is $E$ and third digit is $F$.

Also, $A$, $B$, $C$, $D$, $E$ and $F$ are each distinct nonzero digits, and

$$
\begin{array}{c}
A \ B \ C \\
+ \ D \ E \ F \\
\hline
1 \ 0 \ 0 \ 0 
\end{array}
$$

Determine the largest possible three-digit integer $ABC$ that satisfies the restrictions above.