Problem 4 (due on Monday, October 21).

Find all continuous functions $f:\mathbb R\longrightarrow \mathbb R$ such that for any real numbers x,y either $f(x+f(y))=f(x)+y$ or $f(f(x)+y)=x+f(y)$.

The problem was solved by Levi Axelrod and Dr. Mathew Wolak. The only functions which satisfy the conditions of the problem are $f(x)=x$ and $f(x)=-x$. Both submitted solution as well as our in-house solution follow the same idea. For details see the following link Solution.

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