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*A categorification of Conway's theory of games (tutorial)*

John Conway, in his theory of two-persons games, constructed an ordered abelian group from the class of all games. The construction depends on the following operations: the sum $A + B$ of two games $A$ and $B$, the opposite $-A$ of a game $A$ and the null game 0. Let us denote by $W(A)$ the set of winning strategies for the left (player), when the right (player) opens on a game $A$. Conway's preorder relation $A \leq B$ means that $W(B - A) \neq \emptyset$. We intend to construct a category whose objects are games, where a morphism $A \to B$ is defined an element of $W(B - A)$. We recall the notion of compact closed symmetric monoidal category, in which every object has a dual. We would like to show that the category of games is symmetric monoidal and compact. But is it really a category? How do we show that the composition law is associative ? When are two (winning) strategies equivalent? I will address this last question in my afternoon talk.