Lazy cops and robbers on a sphere

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This research project aims to explore the Lazy Cop Number of a sphere. Cops and Robbers is a pursuit-evasion game, similar to pacman, that is played on graphs. We focus on a variation where only one cop can move per round, changing the game to be more like chess. We set out to prove the minimum number of cops to guarantee a robber capture through known theorems, structural properties of graphs, and induction. It was proved in an earlier paper that the lazy cop number for cylinders is 2, whereas we found the lazy cop number of a sphere to be 3. We present a strategy to guarantee a win with 3 lazy cops, a counterexample to show 2 are not enough, and a few general conjectures.