QuackHacks Challenge

Today, you'll be building a game that uses Qiskit, **QPong**. This game was designed by Huang Junye, Jarrod Reilly, Anastasia Jeffery and James Weaver in IBM Qiskit Camp 2019.

Today, we'll start off by recreating the game, to build some familiarity with Qiskit, guided by Junye. We'll have three parts to the challenge, with the last two being optional, if you've completed part 1 and want to explore more.

Part 1: The first level of this challenge is rebuilding the original game. While it may be easy to just follow along with Junye, try and take your time to make sense of how exactly the code works.

Part 2: After building the game, you get to put your own *spin* on it! (haha, get it?) Make changes to to game to extend gameplay. What that means is up to you, but you need to sell it to us. By the end of the day, make changes and upload a less than 2 minute video demonstrating the changes you've made to the game. All teams will vote on their favorite game changes and whoever gets the most votes wins!

Part 3: Okay, this might sound a bit too difficult, but if you really want to envelop yourself in quantum, try building a quantum circuit that can take in some information about the system and act as a sort of game agent!

Okay, now that you've got the gist of the event, go have fun and be sure to check out some of our talks!

Some useful resources (don't worry, the links are clickable, we're not evil)

- QiC QuackHacks Repository: https://github.com/ncsuqic/QuackHacksSpring2023

  This repository has everything you'll need to know to get started with today's event. To submit your entry, **please follow the guidelines specified in the repository**.

- Junye's reference repository: https://github.com/QPong/qpong-livestream

  This repository has a reference implementation of QPong over each step with separate commits. If for some reason you can't get your implementation to work, feel free to refer to it for guidance! There's also a discussion page (https://github.com/QPong/qpong-livestream/discussions) where you can find some ideas to get started on expanding QPong.