Our goal for this challenge was to a improve upon the design of the vex robot claw for the vex robotic change up competition. The function that we are improving in the claw is the grip when holding the ball. One reason for the design is for when the vex robot hit another robot the ball could fall out. An issue this design would solve is when a collision happens between two robot the ball would stay in the claw instead of falling out.

The claw would be attached with the rods on the back to the vex robot. When the claw is used the ball would be pick up and slide into the divot made. Divot in the claw would ensure that the ball would not fall out if there were to be a collision with the other team robot. Another benefit to this design is when picking up the ball. When the robot goes to pick up a ball the ball would go up due to the design, but the ball would go straight into the divot ensuring that the ball would not fall out. We design this prototype claw using Tinkercad 3D modeling software.

We use Tinkercad version of software Tinkercad 2019\_10\_14. The first thing we did was make a ruff model of the claw. Then we start experimenting with different block for the claw and how it would it look. If we could not find a part than we would try to make one to fit our needs. When we needed parts that we have to make, we would visualize the part then try to make it. Sometimes it would turn out not as we hope, so we would try again. The part was made from cutting, combining, and configurating basic shape into what we need. This is just a protype because the design can be builted and improved upon, but our design showed what we were aiming to improve and issue we were aiming to solve. Using Tinkercad was easy, simple, and was straight forward make this challenge easier.

This challenge was a blast to do with my friend. We could not do the 3D printing due to some circumstance that had pop up, but we learn a lot for example the basic of 3D modelling and how to make custom parts in Tinkercad. I will use 3D modelling for designing buildings. If I were on a competitive robotic team this software would let us model and build part in order to improve our design and performance in competition. Making the new part would help us make the robot simpler, but also more affect in competition. Learning 3D modelling would help my path to becoming an architect. It would help me model out and design homes and building. Using the 3D model software would help while building because the whole is show in the model.