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APCS pd6
Final Project Proposal
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Birdie's Mockeria (working title)

For our final project, we would like to recreate Papa's Pizzeria using Processing, stacks, queues, and LinkedLists. The user will be able to play a game in which they will receive pizza orders with specific topping requests and possibly baking and cutting instructions. They will be tasked with making the pizza by visiting stations which include cashier, dough, toppings, oven, cutting, and serving. At each station, they will be able to add to the pizza. At the final station, their performance will be evaluated based on how well their pizza corresponds to the order that was received.

We were thinking about this project because we thought that there were many opportunities to apply second semester topics such as queues and stacks. Pizza orders will be stored in a queue. Assembly of a pizza can be processed using stacks. For example, we won't allow the player to cut and serve a pizza if it hasn't gone through the oven, since we'll be tracking the steps through the stack. Additionally, we're thinking about using stacks to assess how accurately the player followed the order by popping off elements from the stack and checking against a stack that represents the pizza order. Each station will be a node, and we will have a DoublyLinkedList made up of the stations to make sure that the player is progressing in the right way.

Our minimum viable product will allow the player to interact using keyboard and mouse in Processing in the stations we listed above. We would also like to ensure that our program can accurately assess the performance of the player and handle a queue of orders. In the original Papa's Pizzeria, the player is able to make multiple pizzas at a time at different stations. However, this functionality is not a priority for us, since we think it might be too difficult. If we get our minimum viable product working, we will try to address this challenge. Overall, we won't focus too much on aesthetics/graphics until we have established the baseline.