Your Task
You need to analyze this policy based on its mathematical properties. You must follow the following rules.

1. You can also leverage your own knowledge about the goal of the game, but the conclusions for the policies have to be based on the mathematical properties of the policy.

2. You need to analyze the policy in these three steps: (a) analyze how changes in variables affect action logits, (b) analyze how changes in logits affect the probability of taking action, and (c) summarize the Influence of input variables on action probabilities.

3. When performing (a), remember that the input variables represent the location of an object. Take into consideration that the input variables are within [0,1]. Pay attention to the coefficients of each input variable and constants (if any).

4. When performing (b), remember that the probability of actions sum to one.

5. An increase of the logit of certain actions might results in an increase in the probability of that action. A decrease of the logit of certain actions might results in an decrease in the probability of that action.

6. When performing (c), summarize your findings from (a) and (b).

For example, for logits_up1, first think about the coefficient of x_ball_2. Since the values of x_ball_2 are within [0,1], how does it affect the logit of moving up? How does it affect the probability of moving up?

7. Be specific the effect of each term.

Output
Organize your response as (1) equation, (2) influential variables, and (3) analysis. Render the equations into latex format. Use the object names and frame indices as subscripts. For example, y_\text{agent,1}. Use the name of actions as the subscript of logits. For example, logits_\text{noop}. Only keep two significant digits for each number.

Now, analyze action noop.

{Chatgpt response}

Analyze action up.

{Chatgpt response}

Analyze action down.

Provide a summary for your recent analysis. Follow the rules below.

1. Be specific on when will the agent chooses certain actions.
2. Your summary should be consistent with your analysis.
3. Organize your response in markdown format.

Here is a recap for our set up.

{Recap in public prompt}