If you are interested in learning more about the difference between first-visit and every-visit MC methods, you are encouraged to read Section 3 of **this paper**.
Their results are summarized in Section 3.6. The authors show:

- Every-visit MC is **biased**, whereas first-visit MC is unbiased (see Theorems 6 and 7).
- Initially, every-visit MC has lower **mean squared error (MSE)**, but as more episodes are collected, first-visit MC attains better MSE (see Corollary 9a and 10a,

  and Figure 4).

Both the first-visit and every-visit method are **guaranteed to converge** to the true value function, as the number of visits to each state approaches infinity. (*So, in other words, as long as the agent gets enough experience with each state, the value function estimate will be pretty close to the true value.*) In the case of first-visit MC, convergence follows from the **Law of Large Numbers**, and the details are covered in section 5.1 of the **textbook**.

Please use the next concept to complete **Part 0: Explore BlackjackEnv** and **Part 1: MC Prediction: State Values** of `Monte_Carlo.ipynb`. Remember to save your work!

If you'd like to reference the pseudocode while working on the notebook, you are encouraged to open **this sheet** in a new window.

Feel free to check your solution by looking at the corresponding sections in `Monte_Carlo_Solution.ipynb`.