1. **Overview** of the analysis: Explain the purpose of this analysis: We are trying to produce a model that can predict which charities will be successful.
2. **Results**: Using bulleted lists to support your answers, address the following questions:

* Data Preprocessing
  + We are trying to predict which charities will be successful
  + What variable(s) are the features for your model?
    - APPLICATION\_TYPE
    - AFFILIATION CLASSIFICATION
    - USE\_CASE
    - ORGANIZATION
    - STATUS INCOME\_AMT
    - SPECIAL\_CONSIDERATIONS
    - ASK\_AMT
  + What variable(s) should be removed from the input data because they are neither targets nor features? I eliminated the EIN and Organization name.
* Compiling, Training, and Evaluating the Model
  + How many neurons, layers, and activation functions did you select for your neural network model, and why?
    - First Dense Layer: 80 neurons, which likely uses an activation function such as ReLU (not specified, but commonly used).
    - Second Dense Layer: 30 neurons, also likely using ReLU.
    - Output Layer: 1 neuron, typically using a sigmoid activation function for binary classification tasks.
    - Rationale: The choice of having multiple layers allows the model to learn complex patterns in the data. The first layer captures a broad range of features, while subsequent layers refine these features for better classification.
  + Were you able to achieve the target model performance? No, I was not able to get to 75%. The closest I could get was 72.10495471954346 (attempt 2).
  + What steps did you take in your attempts to increase model performance? I made three attempts:
    - Optimization attempt 1
      * Dropping more or fewer columns. Dropping the organization column
      * Creating more bins for rare occurrences in columns. Changing the threshold for the application and classification
    - Optimization attempt 2
      * Add more neurons to a hidden layer. Added 120 nodes to the first layer and 60 nodes to second layer.
      * Add more hidden layers. Added a third layer with 30 nodes.
    - Optimization attempt 3
      * Use different activation functions for the hidden layers. Replaced Relu with tanh for all hidden layers.
      * Add or reduce the number of epochs to the training regimen. Reduced the epochs form 100 to 50.
  + The training and validation accuracies are quite close, which suggests that the model is not overfitting significantly. However, the overall accuracy of around 72% indicates that there may still be room for improvement in model performance.

**Summary:** The model achieved a training accuracy of 72.94% and a validation accuracy of 72.10% after 100 epochs. The loss values indicate that while the model performs reasonably well, there is potential for enhancement.