**Step 4: Write a Report on the Neural Network Model**

For this part of the assignment, you’ll write a report on the performance of the deep learning model you created for Alphabet Soup.

The report should contain the following:

1. **Overview** of the analysis: Explain the purpose of this analysis.

In this case, machine learning is being used as a prediction tool to see if the users would have good results if they use Alphabet Soup.

1. **Results**: Using bulleted lists and images to support your answers, address the following questions:

* Data Preprocessing:
  + What variable(s) are the target(s) for your model?
    - I think “y” represents the targets since with “y”, we can learn if the conditions are met in the analysis
  + What variable(s) are the features for your model?
    - I think "X" represents the features since with “X”, we can learn everything else that is not “y”

# Split our preprocessed data into our features and target arrays

y = application\_dummies['IS\_SUCCESSFUL'].values

X = application\_dummies.drop('IS\_SUCCESSFUL', axis=1).values

# Split the preprocessed data into a training and testing dataset

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, random\_state=78

* + What variable(s) should be removed from the input data because they are neither targets nor features?
    - “EIN” and “NAME” - identification columns
* Compiling, Training, and Evaluating the Model
  + How many neurons, layers, and activation functions did you select for your neural network model, and why?
    - A single try with 3 hidden layers and not outer layer
  + Were you able to achieve the target model performance?
    - The image below shows a screenshot of the values given by default:

A screen shot of a computer code

Description automatically generated

* + - A screenshot of a computer code

      Description automatically generatedThe image below shows a screenshot of the values given after the analysis I performed:
    - So, after comparing both results the accuracy of my analysis is 0.72 as well, which I think is good.
  + What steps did you take in your attempts to increase model performance?
    - Removing unnecessary data like identification columns
    - Set conditions for “X” and “y”.

1. **Summary**: Summarize the overall results of the deep learning model. Include a recommendation for how a different model could solve this classification problem, and then explain your recommendation.
   * A screenshot of a computer

     Description automatically generatedI should have worked on more than 1 try to see a major significance on my results.