Overview:
The non-profit foundation Alphabet Soup wants to make an algorithm to predict whether or not applica\nts for funding will be successful. With knowledge of machine learning and neural networks, we must use features in the provided dataset to create a binary classifier that is capable of predicting whether applicants will be successful if funded by Alphabet Soup

Results:
To begin the data processing, we removed all irrelevant information. After dropping the *EIN* and *NAME* columns, the remaining columns are features for the model. The *NAME* column was added back into the second test for binning purposes. The data was then split for training and testing sets. The target variable for the model was labeled *IS_SUCESSFUL* and had a value of 1 for yes and 0 for no. *APPLICATION* data was analyzed and *CLASSIFICATION* value was used for binning. I used several data points as a cutoff to bin “rare” variables together with the new value of *Other* for each unique value. Categorical variables were encoded by *get_dummies()* after checking to see if the binning was successful.

Summary:
There were three layers total for each model after applying neural networks. The number of hidden nodes was dictated by the number of features. 5,981 parameters were created by a three-layer training model.