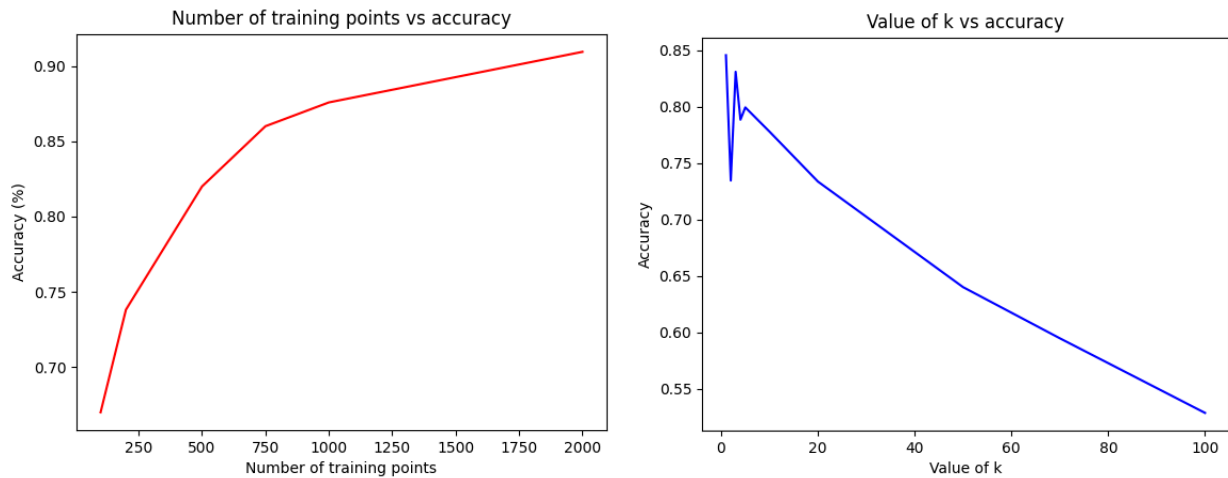
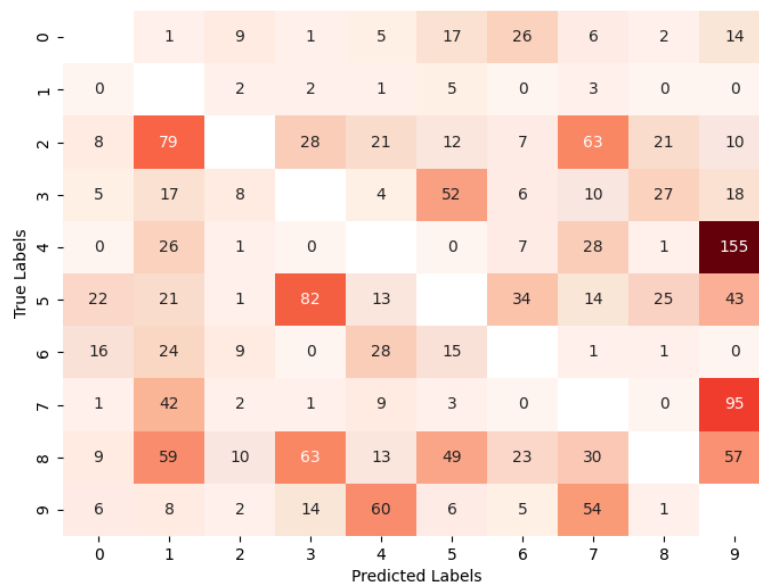


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## KNN Method Analysis



As the graph on the left shows, the more training points there are, the more accurate the classifications by the KNN model will be (this is when  $k=3$ , by default). The graph on the right shows the relationship between the value of  $k$  and the accuracy. The higher the value is for  $k$ , the more bias there seems to be and the less accurate it is.



Meanwhile, this heat map shows the numbers that get confused with each other most often. For example, 4 gets mistaken for 9 most often, followed by 7 which gets mistaken for a 9 as well. The matches between the true and predicted labels (the diagonal) have been omitted to better visualize the confused numbers.