Assignment No. 5

Aim:- Implement logistic regression using python/r to perform classification on social_Network_Ads.csv dataset.

Theory:-

Logistic Regression: social Network Ads.

This project will be a walkthrough of a simple logistic Regression model in an attempt to strategize a basic ad-targeting campaign for a social media network/website. one of the our sponsors advertisements seems to be particularly successful among our order, wealthier users but seemingly less-so with our younger ones we'd like to implement an appropriate model so that we know who our younger ones. target audience is for this specific advertisement, thus maximizing our click-through rate. We'd like to show younger users this ad with a lower probability than we show it to our older/ weathier users, & use that time/space to expose the younger users to ads that they are more likely to be interested in.

our dataset contains some information about all of our users in the social network, including their user ID, Gender, Age & Estimated salary. The last column of the dataset is a vector of booleans describing whether or not each individual ended up clicking on the advertisement (0= false, 1= True)

Let's import the relevant libraries, the dataset & establish which variables are either dependent.

or independent.

If we wanted to determine the effect of more independent variables on the outcome, we would have to implement a dimensionality reduction aspect to the model because we can only describe so many dimesions visually.

Conclusion:- This matrix tells us that there were 89 correct predictions & 11 incorrect ones, meaning the model overall accomplished an 89% accuracy rating. This is very good & there are many ways to improve the model by parameter tuning and sample size increasing, but those topics are outside the scope of this project. our next is to create visualizations to compare the training sets & test set. As we've stated throughout this discussion, seeing our data & being able to visualize our work in front of us is imperative to understanding each step of the model. Charts & graphs will also helps us explain our findings in layman's terms so that others can comprehend the insights that we've derived and they can implement our findings into their business plans.