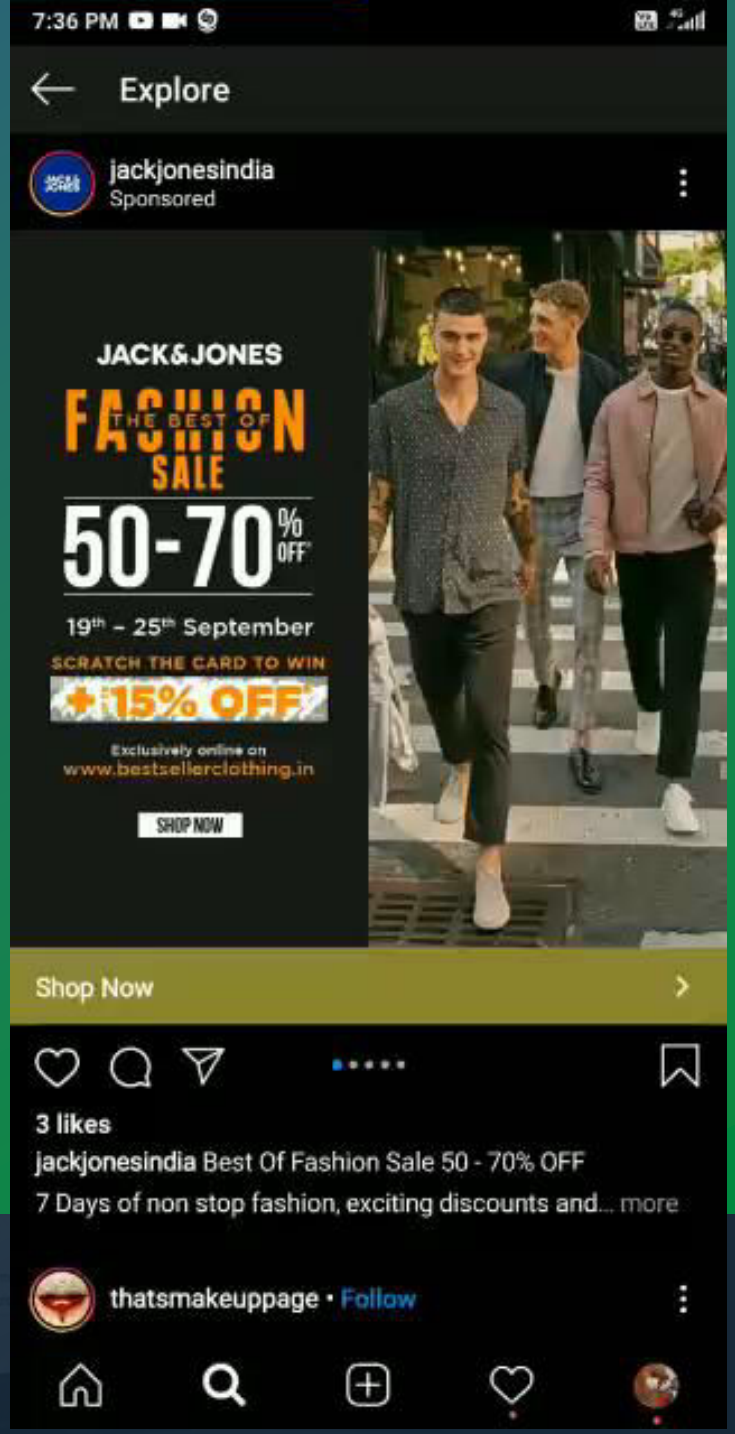
Sales prediction using social media AD

Objective :

To predict whether a user on Social Networking site after clicking the ad's displayed on the website,end's up buying the product or not.



Major steps involved:

- Importing the required libraries.
- Importing the dataset (EXCEL or csv file).

- Evaluate the model and their scores and errors.
- Compare the model score and performance.
- Find which model best fit the dataset.

- Data analysing
- Cleaning the data.
- Visualizing the dataset.
- Feature scaling

- Splitting independent and dependent variables.
- Splitting test and train datasets.
- Test and train the model.

Purchased vs Not purchased

Not purchased:

Not purchase:

0 represents the customer who did not buy the product.

64.24%

Purchased:

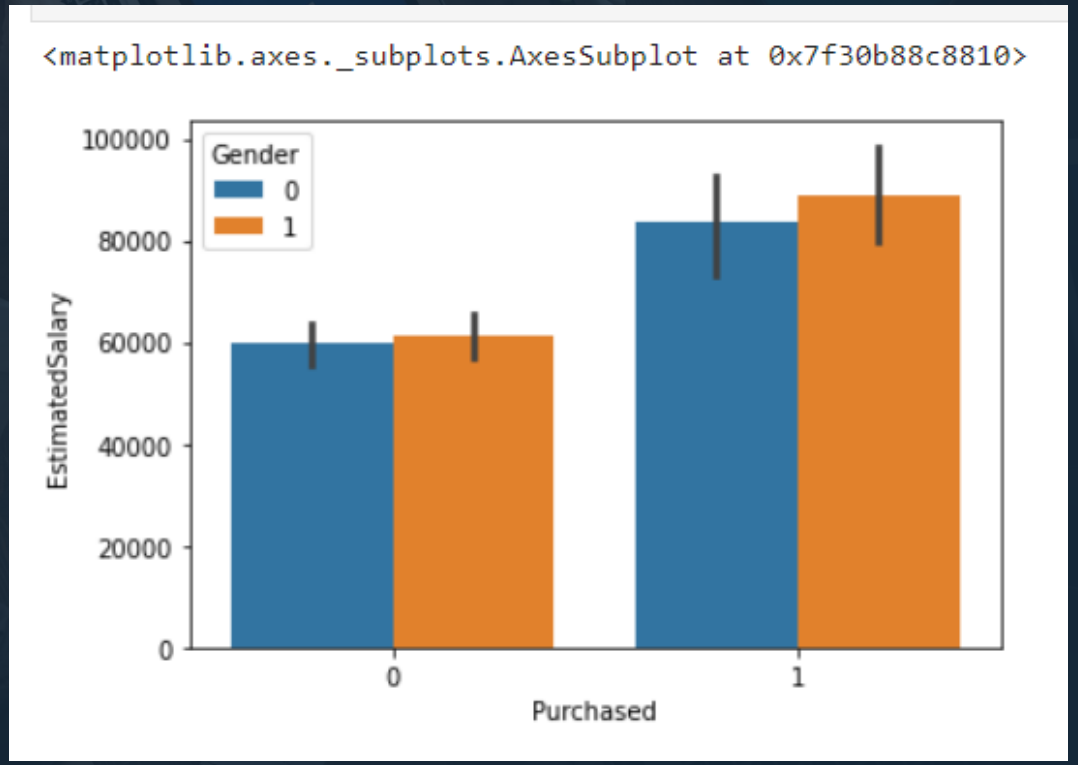
Purchased:

1 represents the customer who purchased the product.

35.75%

It is clear that number of customer who purchased the product is far less than who viewed the advertisement.

Visualizing data



Purchased:

Females have more salary.

Females purchased more .

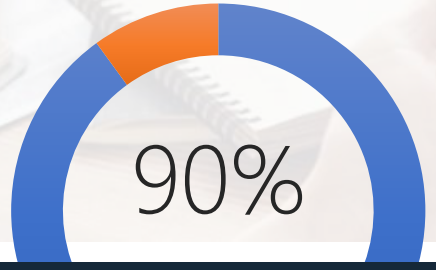
Not purchased:

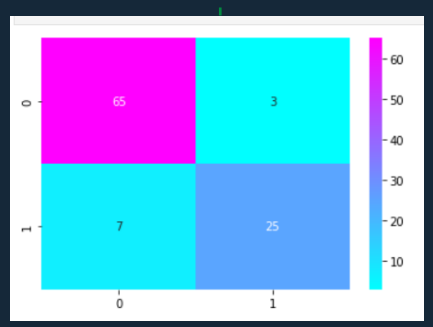
Males have less salary.

Males purchased less compared to female.

It is clear that female likes and buy the product when compared to male.so our target customer must be working female.

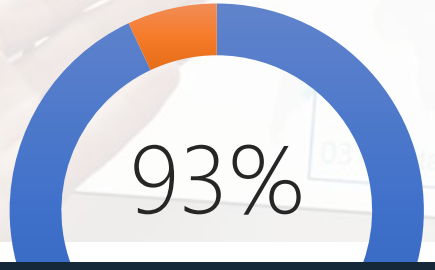
Models:

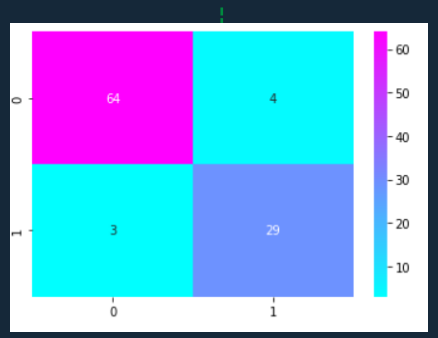




Logistic Regression

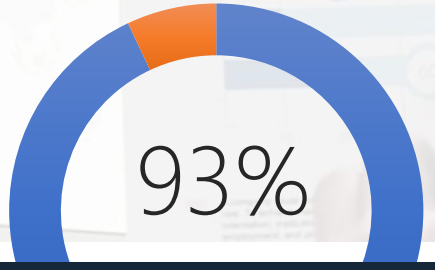
Accuracy is **90%** and heatmap is found,where out of **100,**only **10** is wrongly predicated.

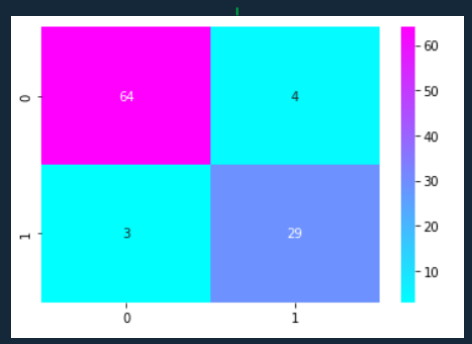




KNN

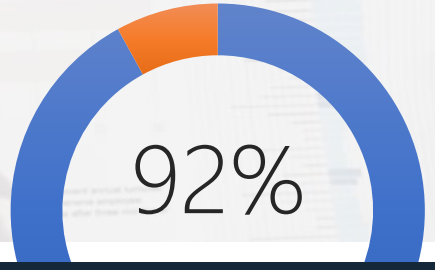
Accuracy is **93%** and heatmap is found,where out of **100,**only **7** is wrongly predicated.

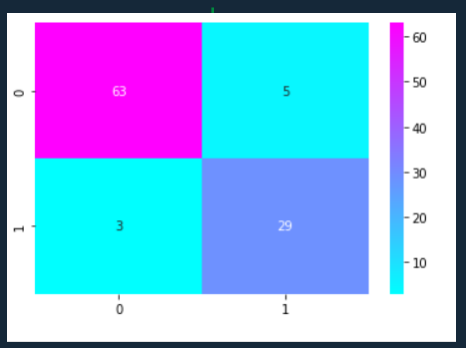




SVM

Accuracy is **93%** and heatmap is found,where out of **100,**only **7** is wrongly predicated.





DECISION TREE

Accuracy is **92%** and heatmap is found,where out of **100,**only **8** is wrongly predicated.

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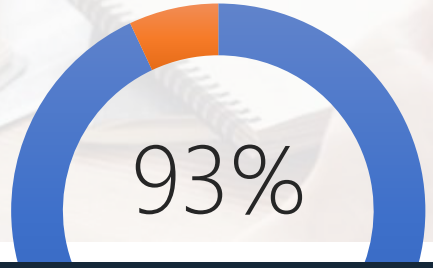
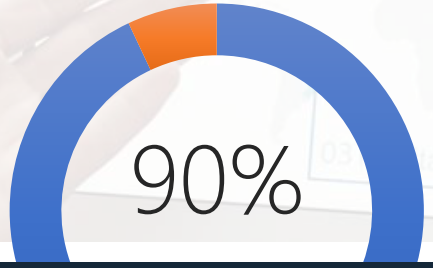
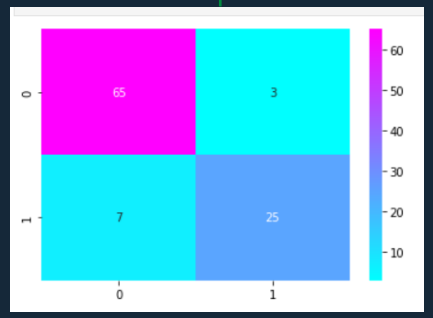
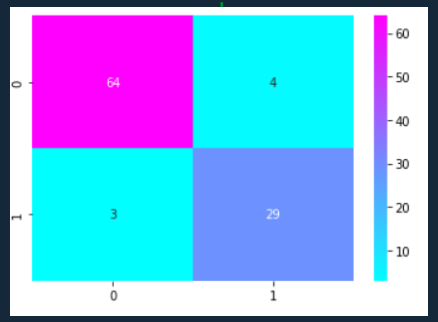








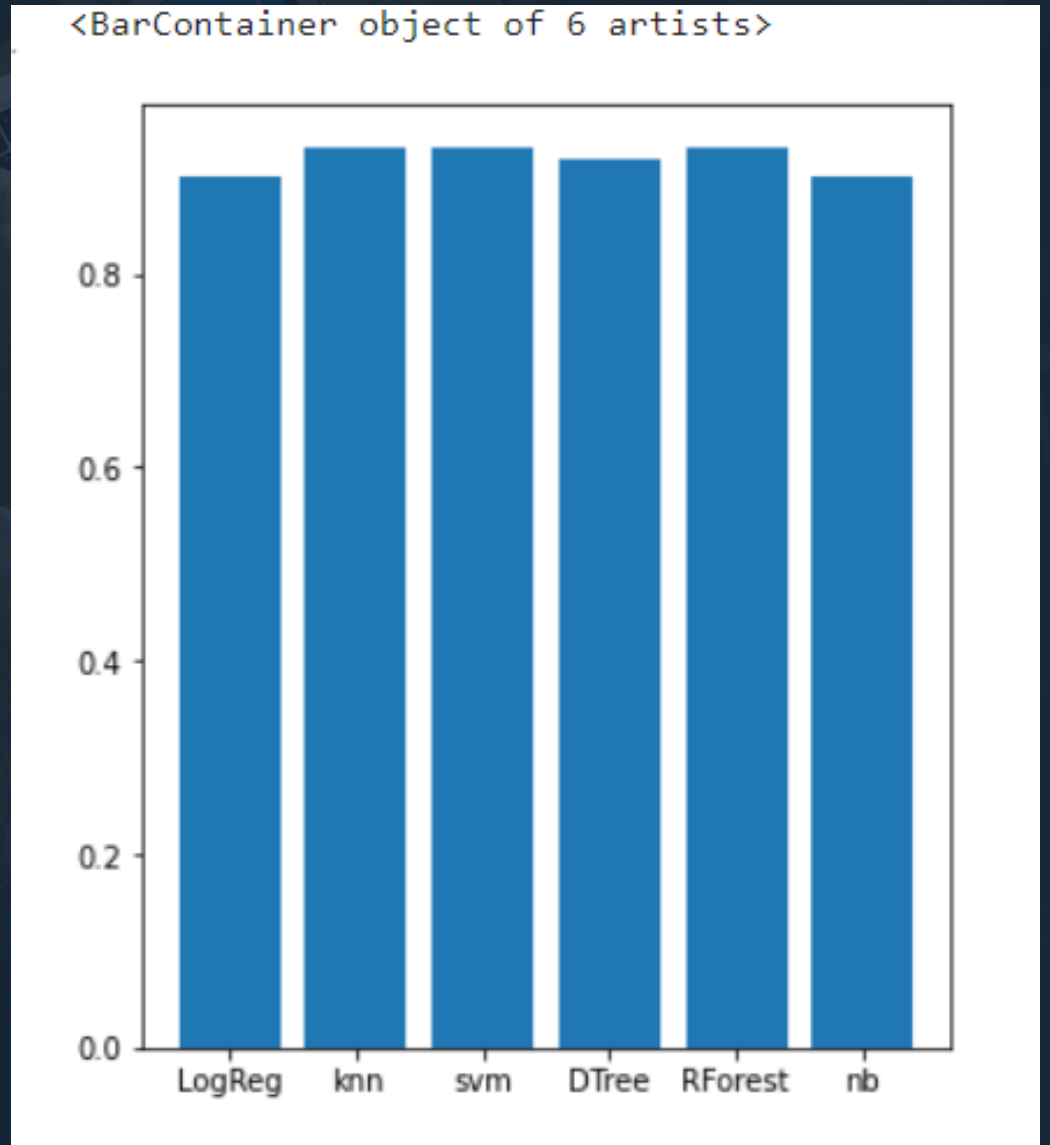
RANDOM FOREST

Accuracy is **93%** and heatmap is found,where out of **100,**only **7** is wrongly predicated.

Naïve bayes

Accuracy is **93%** and heatmap is found,where out of **100,**only **10** is wrongly predicated.

Score comparison



KNN

Knn HAS THE HIGHEST ACCURACY SCORE WITH 93 PERCENTAGE.

93%

RANDOM FOREST & SVM

RANDOM FOREST AND SVM ALSO HAS THE HIGHEST ACCURACY SCORE

93%

Yayyy!! So we can built these Model for predicting the sales of a product being advertised on a Social Media as these are the best models.

From the project.,

01 | Target customers

02 | Increase sales

03 | Make strategic decisions

04 | More accurate budgeting

01

Target marketing helps businesses evaluate which segments of their audiences are most likely to buy their products, and prioritize resources accordingly.

02

Strategic forecasting helps to set goals and in sales growth.

03

It helps to make wise and strategic decisions.

04

It helps to make accurate budgeting and investment on advertisement of the product.