**Project Preparation Phase**
**Model Building**

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|---|---|
| Date | 25 November 2022 |
| Team ID | PNT2022TMID30140 |
| Project Name | University Admit Eligibility Predictor |
| Maximum Marks | |

## Training and Testing the Model:

### Training And Test the model

In [89]:
```
from sklearn.svm import SVC # "Support vector classifier"
classifier = SVC(kernel='linear', random_state=0)
classifier.fit(x_train, y_train)
```

```
/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/sklearn/utils/validation.py:993: DataConversionWarning: A column-vector y was passed when a 1d a
rray was expected. Please change the shape of y to (n_samples, ), for example using ravel().
  y = column_or_1d(y, warn=True)
```

Out[89]:
```
SVC(kernel='linear', random_state=0)
```

In [90]:
```
#Predicting the test set result
y_pred= classifier.predict(x_test)
y_pred
```

Out[90]:
```
array([1, 0, 1, 0, 1, 1, 0, 1, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 1, 1, 1, 1,
       1, 1, 1, 0, 1, 0, 1, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 0, 0, 1, 0, 1,
       1, 0, 0, 1, 0, 0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 1, 0, 1, 0, 1, 1, 0,
       1, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 1, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0,
       0, 1, 0, 0, 1, 0, 0, 1, 1, 0, 1, 0, 1, 0, 1, 1, 1, 0, 0, 1, 0, 0,
       0, 0, 1, 0, 1, 0, 0, 1, 1, 0, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0,
       1, 0, 0, 1, 0, 0, 0, 1, 1, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0,
       1, 1, 0, 0, 1, 0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 0, 0, 1, 1, 1, 1,
       1, 0, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1,
       0, 1, 1, 0, 0, 0, 0, 0, 0, 1, 0, 1, 1, 1, 1, 0, 1, 0, 1, 1, 1, 1,
       0, 1, 1, 0, 1, 1, 0, 0, 1, 0, 0, 0, 1, 1, 0, 0, 1])
```

In [91]:
```
#Creating the Confusion matrix
from sklearn.metrics import confusion_matrix,accuracy_score
cm= confusion_matrix(y_test, y_pred)
cm
```

Out[91]:
```
array([[115,  15],
       [ 15,  92]])
```

In [92]:
```
accuracy_score(y_pred,y_test)  * 100
```

Out[92]:
```
87.34177215189874
```

In [93]:
```
classifier.score(x_train,y_train) *100
```

Out[93]:
```
89.85507246376811
```

In [94]:
```
classifier.score(x_test,y_test)*100
```

Out[94]:
```
87.34177215189874
```

## Model Evolution:

```
      0, 1, 1, 0, 1, 1, 0, 0, 1, 0, 0, 0, 1, 1, 0, 0, 1])
```

In [234…
```
#Creating the Confusion matrix
from sklearn.metrics import confusion_matrix,accuracy_score
cm= confusion_matrix(y_test, y_pred)
cm
```

Out[234…
```
array([[115,  15],
       [ 15,  92]], dtype=int64)
```

In [235…
```
accuracy_score(y_pred,y_test)  * 100
```

Out[235…
```
87.34177215189874
```

In [236…
```
classifier.score(x_train,y_train) *100
```

Out[236…
```
89.85507246376811
```

In [237…
```
classifier.score(x_test,y_test)*100
```

Out[237…
```
87.34177215189874
```

## Save the Model:

In [238…
```
import pickle
pickle.dump(classifier,open("project.pkl","wb"))
```

In [ ]:
```

```