Model Development Phase Template

Date	15 july 2024
Team ID	740040
Project Title	Predicting co2 emissions by countries using machine learning
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include model training, accuracy presented through respective screenshots.

Initial Model Training Code:

```
[ ] #Training the model

    from sklearn.ensemble import RandomForestRegressor
    rand = RandomForestRegressor(n_estimators=10,random_state=52,n_jobs=-1)
    rand.fit(x_train,y_train)
```

```
<ipython-input-53-6c838af2cded>:5: DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the shape of y to (n_samples,), for example us
  rand.fit(x_train,y_train)
RandomForestRegressor
RandomForestRegressor(n_estimators=10, n_jobs=-1, random_state=52)
```

```
[ ] ypred = rand.predict(x_test)
    print(ypred)
```

```
[2.23526022e+00 7.92900024e+01 4.63113569e+01 ... 9.33333333e+00
 3.45749686e+01 6.00578821e+09]
```

```
[ ] #Accuracy score
    #To check how well our model is performing on the test data
    rand.score(x_train,y_train)
```

```
0.9829119449040941
```

```
[ ] x_train
```

[ ]

	CountryName	CountryCode	IndicatorName	Year
1937930	100	99	771	1990
2056226	102	101	104	1991
4291514	232	6	832	2006
1272651	211	202	1036	1983
4348108	34	40	382	2007
...	...	...	...	...
5030793	70	60	665	2011
491263	217	214	443	1972
3937352	237	233	750	2004
4686059	6	10	489	2009
4322341	0	2	263	2007

4525166 rows × 4 columns

[ ]
```
x_pred=['7','5','44','1961']
```

[ ]
```
rand.predict([x_pred])
```

```
/usr/local/lib/python3.10/dist-packages/sklearn/base.py:439: UserWarning: X does not have valid feature names, but RandomForestRegressor was fitted with feature names
  warnings.warn(
array([134.18303659])
```