Project Development Phase
Model Performance Test

Date	19 May 2023
Team ID	NM2023TMID01905
Project Name	Cancer Mortality & Incidence Rates Classification Using Machine Learning

Model Performance Testing:

Project team shall fill the following information in the model performance testing template.

S.No.	Parameter	Values	Screenshot

1.	Metrics	**<u>CLASSIFICATION MODEL</u>**
		
		DEATH RATE:
		Confusion Matrix –
		`[[5   0    0    0    0]`
		` [0  77   0    0    0]`
		` [0   0   352  5    0]`
		` [0   0   3   181   0]`
		` [0   0    0    0    5]],`
		
		Accuracy Score – `0.9872611464968153`
		
		Classification Report –
		`         precision  recall  f1-score  support`
		`1     1.00      1.00     1.00         5`
		`2     1.00      1.00     1.00        77`
		`5     0.99      0.99     0.99       357`
		`6     0.97      0.98     0.98       184`
		`7     1.00      1.00     1.00         5`
		
		`Acc:                    0.99        628`
		`macroavg: 0.99    0.99   0.99        628`
		`wtd avg:  0.99    0.99   0.99        628`
			DEATH RATE:

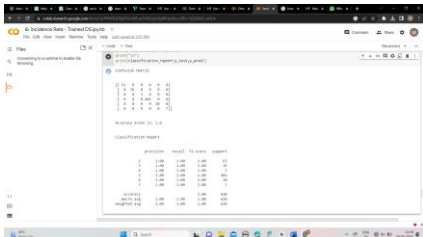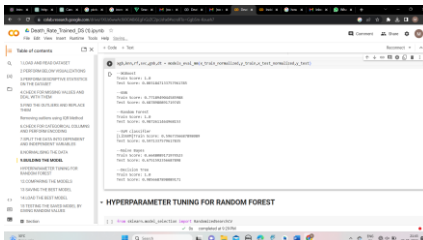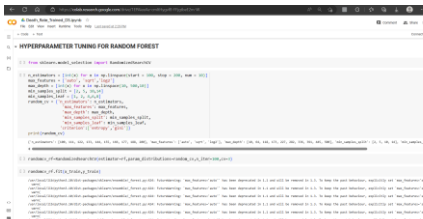|			
		INCIDENCE RATE: **Confusion Matrix –** ``` [[63 0 0 0 0 0] [0 36 0 0 0 0] [0 0 3 0 0 0] [0 0 0 481 0 0] [0 0 0 0 38 0] [0 0 0 0 0 7]] ``` **Accuracy Score –** 1.0 **Classification Report –** ``` precision recall f1-score support 1 1.00 1.00 1.00 63 3 1.00 1.00 1.00 36 4 1.00 1.00 1.00 3 5 1.00 1.00 1.00 481 6 1.00 1.00 1.00 38 7 1.00 1.00 1.00 7 Acc 1.00 628 macroavg:1.00 1.00 1.00 628 wtd avg: 1.00 1.00 1.00 628 ```	**INCIDENCE RATE:**
2.	Tune the Model	**DEATH RATE:** **Validation Method –** ``` --XGBoost Train Score: 1.0 Test Score: 0.0031847133757961785 --KNN Train Score: 0.7718949044585988 Test Score: 0.6878980891719745 --Random Forest Train Score: 1.0 Test Score: 0.9872611464968153 --SVM classifier [LibSVM]Train Score: 0.5967356687898089 Test Score: 0.5971337579617835 --Naive Bayes Train Score: 0.6648089171974523 Test Score: 0.6751592356687898 --Decision Tree Train Score: 1.0 Test Score: 0.9856687898089171 ```	**DEATH RATE:**

		INCIDENCE RATE:	**INCIDENCE RATE:**
		Validation Method – --XGBoost Train Score: 1.0 Test Score: 0.0 --KNN Train Score: 0.9243630573248408 Test Score: 0.8996815286624203 --Random Forest Train Score: 1.0 Test Score: 0.9984076433121019 --SVM classifier [LibSVM]Train Score: 0.7826433121019108 Test Score: 0.7722929936305732 --Naive Bayes Train Score: 0.45660828025477707 Test Score: 0.4410828025477707 --Decision Tree Train Score: 1.0 Test Score: 0.9984076433121019	