19UCC023 Mohit Akhouri

IDS-Assignment 3

Confusion matrix is:

		Predicated class	
		Legimitate	Fradulent
Actual class	Legiti-mate	900	80
	Fraud-alent	10	10

TP = 900
FN = 80
FP = 10
TN = 10

Q1) - - - - - - - - - - - - - - - - -

Soln:

$TPR = \boxed{TP/(TP+FN)} = 900/(900+80)$
$= 900/980 = 0.918$

$FPR = \boxed{FP/(TN+FP)} = 10/(10+10) = 10/20 = 0.5$

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TNR = TN/(TN+FP) = 10/(10+10) = 10/20 = 0.5

FNR = FN/(TP+FN) = 80/(900+80) = 80/980 = 0.0816

TPR	0.918
FPR	0.5
TNR	0.5
FNR	0.0816

= Ans. (1)

Q2) — — — — — — — — — — — — — —

Soln:

Accuracy = (TP + TN)/(TP + TN + FP + FN)

= (900 + 10)/(900 + 10 + 10 + 80)

= 910/(1000) = 0.91

Precision = TP/(TP + FP) = 900/(900 + 10)

= 900/910 = 0.989

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Recall = $\boxed{TP/(TP+FN)} = 900/(900+80)$

$= 0.918$

F1 measure = $\boxed{\frac{2 \times TP}{2 \times TP + FP + FN}}$

$= \frac{2 \times 900}{2 \times 900 + 10 + 80}$

$= \frac{1800}{1800 + 90} = \frac{1800}{1890} = 0.952$

Accuracy	0.91
Precision	0.989
Recall	0.918
F1 measure	0.952

~~(A2)~~

=Ans.(2)