

# BINARY Classification

## Confusion matrix - Questions 5

$$TN = 9530$$

$$FP = 10$$

$$N = 10,000$$

$$FN = 300$$

$$TP = 160$$

$$\text{Accuracy} = \frac{TN + TP}{N} = \frac{9530 + 160}{10000} = \underline{\underline{0.969}}$$

$$\text{Precision} = \frac{TP}{TP + FP} = \frac{160}{160 + 10} = \underline{\underline{0.941}}$$

$$\text{Recall} = \frac{TP}{TP + FN} = \frac{160}{160 + 300} = \underline{\underline{0.348}}$$

## F-score (AKA F-measure)

$$F = \frac{2 \times P \times R}{P + R} = \frac{2 \times 0.941 \times 0.348}{0.941 + 0.348}$$

$$= \frac{0.655}{1.289} = \underline{\underline{0.508}}$$

(F-score formula given in exam paper)