(1) The three main types of Naive Bayes classifiers differ primarily in the **type of data they are designed to handle** and the **assumptions they make about the data's distribution**. They all operate on the core "naive" assumption that features are independent of each other.

- **Gaussian Naive Bayes (GaussianNB)** assumes features follow a normal distribution, making it well-suited for continuous and real-valued data such as height, weight, or temperature. It is simple, fast, and effective when data fits the normality assumption, but less suitable for discrete counts or binary features.
- **Bernoulli Naive Bayes (BernoulliNB)** assumes binary features (0 or 1) and works well when the presence or absence of a feature is important, such as in text classification. It is simple and effective with binary data but less suitable for count-based or continuous features since it ignores frequency information.
- **Multinomial Naive Bayes (MultinomialNB)** is suited for features that represent discrete counts, such as word frequencies in text. It is effective for tasks like spam detection and sentiment analysis but less suitable for continuous or purely binary data.

(2) Precision 와 Recall Comparison

Classifier	**Precision (fraud)**	**Recall (fraud)**
GaussianNB	0.38	0.86
MultinomialNB	0.00	0.00
BernoulliNB	0.93	0.76

(3) **BernoulliNB** is the preferred model for fraud detection.

It balances **precision and recall** effectively.

Minimizes **false positives** while still detecting most fraud cases.

Works well on datasets with **binary or converted features**.