**Loan Defaulting Final Analysis:**

From the classification report, it is observed that the Random Forest (RF) algorithm has a higher accuracy (0.78) compared to the Logistic Regression (LR) algorithm (0.75). This would therefore mean that the former produces better results and would thus be adopted.

However, from the classification reports and confusion matrices the following are observed:

*Positive means a customer will not defaults (0).*

*Negative means a customer will default (1).*

* RF has a higher True Positivity rate than the LR meaning RF predicts better those who will not default.
* LR has a higher True Negativity rate than the RF meaning LR predicts better those customers who will default
* LR has a higher False Negativity rate than the RF meaning LR predicts more customers defaulting who actually did not actually default.
* RF has a higher False Positivity rate than the LR meaning RF predicts more customers not defaulting who actually defaulted.

In an ideal business environment, a loan lending institution would be more concerned about customers who would or seem to have a higher probability of defaulting so as not to give loans to them and thus avoid the risk of losses.

From this perspective, the RF algorithm performs very poorly as it predicts more customers not defaulting who actually did not default but fails to predict better in terms of customers who default. It also fails by predicting more customers did not default when they actually defaulted. This means that it would misguide the loaning institution to give more loans to customers who would default thus more non-performing loans leading to more risk of losses.

Even though the LR algorithm predicts more poorly in terms of customers defaulting who did not actually default, this is not such a bad thing because even if such customers were given loans they would still repay. LR wins as it has a much lower False Positivity rate and would therefore be more ideal to adopt.

These metrics however would guide an institution to choose an algorithm of their choice based on their goals. Once the goals are clearly outlined, the appropriate algorithm can thus be chosen.