

**Model Development Phase Template**

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| Date | 9 July 2024 |
| Team ID | team-739821 |
| Project Title | Precise Coffee Quality Prediction |
| Maximum Marks | 6 Marks |

**Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

**Model Selection Report:**

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| **Model** | **Description** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| Logistic Regression | Logistic Regression is a statistical model used to predict the probability of a binary outcome based on one or more predictor variables. It's particularly suited for problems where the dependent variable is categorical. | Accuracy score=69.2% |
| Decision  Tree  Classifier | A Decision Tree Classifier recursively partitions the data into subsets based on the most significant attributes at | Accuracy score=87.2% |



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|  | each node. It creates a tree-like model of decisions, making it interpretable and suitable for both classification and regression tasks. |  |
| Random  Forest  Classifier | Random Forest Classifier is an ensemble learning method that builds multiple decision trees during training and merges them together to get a more accurate and stable prediction. It mitigates overfitting and improves accuracy compared to single decision trees. | Accuracy score=94.9% |