**Model Development Phase Template**

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| Date | 20 June 2024 |
| Team ID | 739813 |
| Project Title | Optimizing Sleep Efficiency: Harnessing Machine Learning For Enhanced Restorative Rest |
| 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** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, r2\_Score)** |
| Linear Regression | 1.Simplicity and Interpretability  2.Efficiency  3.Foundation for More Complex Models,etc. | Hyperparameters no used | 0.7908813330628066 |
| Decision tree | 1.Easy to Interpret  2.No Need for Feature Scalling  3.Handling Missing Values,etc. | Hyperparameters no used | 0.7052744252299563 |
| **Random Forest** | **1.Improved r2\_score**  **2.Reduced Overfitting**  **3.Handling High Dimensionality,etc.** | Hyperparameters no used | **0.844687065866765** |