**Model Development Phase Template**

| Date | 15 March 2024 |
| --- | --- |
| Team ID | 740009 |
| Project Title | Student Adaptability Level of Online Education |
| 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:**

| **Model** | **Description** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| --- | --- | --- | --- |
| Random Forest Classification | A function named random forest regressor is created and train and test data are passed as the parameters, inside the function, random forest regressor is initialized and training data is passed to the model with the .fit() function. Test data is predicted with .predict() function and saved in a new variable. For evaluating the model with R2\_score. | fit(),predict(),random\_state() | 0.91 |
| Decision Tree Classification | A function named decision tree regressor is created and train and test data are passed as the parameters, inside the function, decision tree regressor is initialized and training data is passed to the model with the .fit() function. Test data is predicted with .predict() function and saved in a new variable. For evaluating the model with R2\_score. | fit(),predict(),random\_state() | 0.89 |
| Xg Boost | A function named xg boost is created and train and test data are passed as the parameters, inside the function, Gradient boosting regressor is initialized and training data is passed to the model with the .fit() function. Test data is predicted with .predict() function and saved in a new variable. For evaluating the model with R2\_score. | fit(),predict(),random\_state() | 0.90 |