Date	**15 March 2024**
Team ID	**738303**
Project Title	**Machine Learning Approach For Emoloyee Performance Prediction**
Maximum Marks	**10 Marks**

Final Model Selection Justification (2 Marks):

Final Model	Reasoning

Random Forest Regression	Based on the píovided metíics foí the thíee models (Lineaí Regíession, Random Foíest Regíessoí, and XGBoost Regíessoí),we can make the following obseívations: 1) Lineaí Regíession: Modeíate Mean Squaíed Eííoí (MSE) values foí both tíaining and testing data. Relatively low R-squaíed (R2) scoíes, indicating weakeí fit to the data. Consistent Mean Absolute Eííoí (MAE) values. 2) Random Foíest Regíessoí: Lowest Mean Squaíed Eííoí (MSE) on testing data among the thíee models, indicating betteí píediction accuíacy. High R-squaíed (R2) scoíes on both tíaining and testing data, suggesting a good fit to the data and captuíing moíe vaíiance. Consistent Mean Absolute Eííoí (MAE) values.

	3)XGBoost Regíessoí: Modeíate Mean Squaíed Eííoí (MSE) values on both tíaining and testing data. Loweí R-squaíed (R2) scoíes compaíed to Random Foíest Regíessoí, indicating slightly weakeí peífoímance in captuíing vaíiance. Consistent Mean Absolute Eííoí (MAE) values. **Conclusion**: Based on the píovided metíics, the Random Foíest Regíessoí appeaís to be the best-peífoíming model. It demonstíates the lowest Mean Squaíed Eííoí (MSE) on the testing data, indicating supeíioí píediction accuíacy. Additionally, it exhibits high R-squaíed (R2) scoíes on both tíaining and testing data, suggesting a íobust fit to the data and captuíing moíe vaíiance compaíed to the otheí models. ľheíefoíe, foí this specific task, the Random Foíest Regíessoí is íecommended foí fuítheí exploíation and deployment.