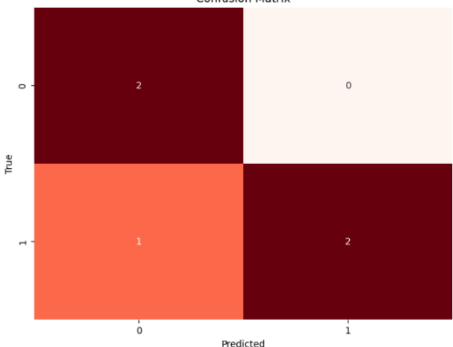


## Project Development Phase Model Performance Test

Date	20 November 2023
Team ID	592923
Project Name	Garment Worker Productivity Prediction
Maximum Marks	10 Marks

### Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot																																							
1.	Metrics	<div><div><b>Regression Model:</b> MAE - 0.180 MSE – 0.034 RMSE – 0.184 R2 score – 0.964</div><div><b>Classification Model:</b> Confusion Matrix Accuracy Score- 0.8 Classification Report</div></div>	<div><pre>mae = mean_absolute_error(y_true, y_pred) mse = mean_squared_error(y_true, y_pred) rmse = mean_squared_error(y_true, y_pred, squared=False) r2 = r2_score(y_true, y_pred) print(f"MAE: {mae}") print(f"MSE: {mse}") print(f"RMSE: {rmse}") print(f"R2 Score: {r2}")</pre><div>MAE: 0.18000000000000008 MSE: 0.034000000000000044 RMSE: 0.18439088914585786 R2 Score: 0.9644945697577276</div></div> <div><div>Confusion Matrix</div><table><thead><tr><th></th><th>0</th><th>1</th></tr></thead><tbody><tr><th>0</th><td>2</td><td>0</td></tr><tr><th>1</th><td>1</td><td>2</td></tr></tbody></table></div> <div><div>Accuracy: 0.8</div><div>Classification Report:</div><table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>0</td><td>0.67</td><td>1.00</td><td>0.80</td><td>2</td></tr><tr><td>1</td><td>1.00</td><td>0.67</td><td>0.80</td><td>3</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.80</td><td>5</td></tr><tr><td>macro avg</td><td>0.83</td><td>0.83</td><td>0.80</td><td>5</td></tr><tr><td>weighted avg</td><td>0.87</td><td>0.80</td><td>0.80</td><td>5</td></tr></tbody></table></div>		0	1	0	2	0	1	1	2		precision	recall	f1-score	support	0	0.67	1.00	0.80	2	1	1.00	0.67	0.80	3	accuracy			0.80	5	macro avg	0.83	0.83	0.80	5	weighted avg	0.87	0.80	0.80	5
	0	1																																								
0	2	0																																								
1	1	2																																								
	precision	recall	f1-score	support																																						
0	0.67	1.00	0.80	2																																						
1	1.00	0.67	0.80	3																																						
accuracy			0.80	5																																						
macro avg	0.83	0.83	0.80	5																																						
weighted avg	0.87	0.80	0.80	5																																						

2.	Tune the Model	<p>Hyperparameter Tuning – GridSearchCV method</p> <p>Validation Method - Cross-validation with 5 folds</p>	<p>Best Hyperparameters: {'n_estimators': 150, 'min_samples_split': 2, 'min_samples_leaf': 2, 'max_depth': None}</p> <p>Test RMSE with Best Model: 0.11310060848894805</p> <hr/>
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