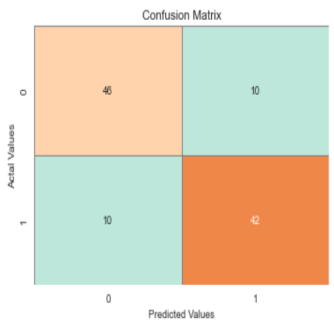
Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID12915
Project Name	Visualizing And Predicting Heart Diseases with An Interactive Dash Board
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	**Classification Model:**
		Accuracy Score –
		
		Classification Report -
		
		Confusion Matrix-
			`pred = rf.predict(X_test)`
			
			`print("Accuracy Score for Testing = {}".format(round(accuracy_score(y_test,pred),5)))`
			
			Accuracy Score for Testing = 0.81481
			
			`cm = confusion_matrix(y_test,pred)`
			`print(classification_report(y_test,pred))`
			
			precision recall f1-score support
			
			0 0.82 0.82 0.82 56
			1 0.81 0.81 0.81 52
			
			accuracy 0.81 108
			macro avg 0.81 0.81 0.81 108
			weighted avg 0.81 0.81 0.81 108
			
			`sns.heatmap(cm, annot = True, fmt = 'g', cbar = False, cmap = 'icefire', linewidths= 0.5, linecolor= 'grey')`
			`plt.title('Confusion Matrix')`
			`plt.ylabel('Actal Values')`
			`plt.xlabel('Predicted Values')`
			
			Text(0.5, 16.0, 'Predicted Values')
			
			 

2.	Tune the Model	Hyperparameter Tuning – Train-Test Split
		
		Validation Method – Monte-Carlo Cross Validation (Shuffle Split)
			`X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4, random_state=42529)`
			
			`X_train.shape, X_test.shape, y_train.shape, y_test.shape`
			
			`((162, 13), (108, 13), (162,), (108,))`
			
			`print("cross Validation scores:n {}".format(scores))`
			`print("Average Cross Validation score :{}".format(scores.mean()))`
			
			`cross Validation scores:n [0.95555556 0.91111111 0.93333333 0.95555556 0.95555556 0.93333333`
			`1. 0.84444444 0.91111111 0.91111111]`
			`Average Cross Validation score :0.9311111111111112`