**# \*\*Feature Selection using RandomForest\*\***

*\*Reference : https://www.shedloadofcode.com/blog/eight-ways-to-perform-feature-selection-with-scikit-learn\**

# Instantiate RandomForestRegressor

rf\_feature\_selection = RandomForestRegressor(n\_estimators= 100)

# Fitting the dataset and target variable

rf\_feature\_selection.fit(x, y)

# Get feature importances

importances = rf\_feature\_selection.feature\_importances\_

# Sort feature importances in descending order

sorted\_indices = importances.argsort()[::-1]

# Select the top k features

k = len(x.columns)

selected\_features = x.columns[sorted\_indices[:k]]

top\_importances = importances[sorted\_indices[:k]]

# Plot the feature importances

plt.figure(figsize=(10, 6))

plt.bar(range(len(top\_importances)), top\_importances, tick\_label=selected\_features)

plt.xticks(rotation=90)

plt.xlabel('Features')

plt.ylabel('Importance')

plt.title('Tree-Based Methods: Feature Importances')

plt.show()

print("Selected Features:")

print(selected\_features)