**Machine Learning**

**Session(2021-2025)**

**Due Date: 04/03/2024**

**Task: House Price Prediction using Machine Learning**

1. **Data Preprocessing:**
   * Obtain the dataset for house price prediction from the provided GitHub repository.
   * Normalize all non-binary features in the dataset to ensure consistent scaling across variables.
2. **Binary Feature Conversion:**
   * Convert binary features in the dataset to numerical values, representing them as 0 and 1 for consistency and compatibility with machine learning algorithms.
3. **Data Splitting:**
   * Divide the dataset into training and test sets, allocating 80% for training and 20% for testing.
   * Use a random seed for reproducibility and to maintain consistency across different runs.
4. **Regression Model Training and Evaluation:**
   * Apply a regression model, such as linear regression or another suitable algorithm, to predict house prices based on the features.
   * Train the regression model using the training set.
   * Evaluate the model's performance on the test set to assess its accuracy.
   * Calculate the accuracy percentage or other relevant metrics to quantify the model's predictive capabilities.
5. **Contour Plot Visualization:**
   * Draw a contour plot of the machine learning model to visualize how the predicted house prices vary with different combinations of input features.
   * Utilize libraries like Matplotlib or Seaborn for creating clear and informative contour plots.