**Problem and Solutions for Project.**

**Project Title:** Predicting House Prices Using Machine Learning

**Project Definition:**

Creating a report for predicting house prices using machine learning typically involves several key sections. Here’s a simplified outline of what you might include

1.Introduction:

- Briefly explain the problem: Predicting house prices.

- Highlight the importance of accurate price predictions in real estate.

**2. Data Collection:**

- Describe the dataset source (e.g., Kaggle, real estate agencies).

- Detail the features included (e.g., square footage, number of bedrooms).

- Mention any data preprocessing steps (e.g., cleaning, handling missing values).

**3. Data Exploration:**

- Present summary statistics and visualizations of the data (e.g., histograms, correlation matrices).

- Identify any patterns or outliers that may affect predictions.

**4. Feature Engineering:**

- Discuss any feature transformations or creations.

- Explain the rationale behind feature selection.

**5. Machine Learning Models:**

- Describe the algorithms used (e.g., linear regression, decision trees).

- Explain the choice of models and their suitability for the task.

- Detail the training and evaluation process (e.g., train-test split, cross-validation).

**6. Model Evaluation:**

- Present performance metrics (e.g., Mean Absolute Error, Root Mean Squared Error).

- Compare different models if applicable.

- Discuss any overfitting or underfitting issues.

**7. Hyperparameter Tuning:**

- Explain the process of optimizing model parameters.

- Highlight the selected hyperparameters and their impact on performance.

**8.Results:**

- Summarize the model’s predictive accuracy.

- Provide insights into which features are most influential in predicting prices.

**9. Discussion:**

- Discuss the limitations of the model.

- Address potential biases or ethical considerations.

- Offer suggestions for future improvements.

**10.Conclusion:**

- Summarize key findings.

- Reiterate the importance of accurate house price predictions.