**QUESTION-1**

**Week 1: Understanding the Problem Statement and Initial Setup**

**Day 1-2: Define the Problem Statement**

**Day 3-4: Team Formation and Role Assignment**

Team should consist of people having Knowledge of topics such as Machine learning, Data Science.

**Day 5-7: Data Acquisition and Initial Exploration**

* **Datasets**:

Team should have access to proper dataset which they can find from platforms such as Kaggle etc.

* **Initial Exploration**:
  + Load datasets and check for missing values, data types, and basic statistics.
  + Preliminary visualization (histograms, box plots, scatter plots).

**Week 2: Model Development and Evaluation**

**Day 8-10: Model Selection**

* **Baseline Models**: Linear Regression, Decision Trees.
* **Advanced Models**: Random Forest, Gradient Boosting, XGBoost.

**Day 11-13: Model Training**

* Split data into training and validation sets.
* Train baseline models and evaluate performance using metrics like RMSE, MAE, R².
* Hyperparameter tuning using cross-validation.

**Day 14: Model Evaluation and Selection**

* Compare model performances.
* Select the best-performing model based on validation metrics.
* Perform error analysis and identify areas for improvement.

**Week 4: Model Optimization and Deployment**

**Day 22-24: Model Optimization**

**QUESTION-2**

My primary motivation for joining AIC is to collaborate with like-minded individuals who share a passion for AI and its applications. I am eager to engage in projects that push the boundaries of what AI can achieve, particularly in areas such as natural language processing, computer vision, and reinforcement learning. I believe that by working together, we can accelerate the development of cutting-edge technologies that benefit society and this community at IIT Bombay.

Joining AIC will provide me with the opportunity to learn from experienced AI practitioners, participate in hackathons and workshops, and contribute to impactful projects. I am excited about the prospect of sharing knowledge, gaining insights, and growing both personally and professionally within this dynamic community.