Customer Churn Prediction: Weekly Sessions Breakdown

# Week 1: Setup & Data Acquisition

Day 1: Introduction, setting up VSCode, and creating a Conda environment  
Day 2: Organizing the project structure as done in big tech firms  
Day 3: Understanding the dataset and acquiring data  
Day 4: Loading the dataset using Pandas, handling missing data  
Day 5: Live Q&A and troubleshooting session  
Weekend Assignment: Perform initial data analysis and prepare for EDA

# Week 2: EDA, Feature Engineering, and Model Training

Day 6: Performing exploratory data analysis (visualization & summary statistics)  
Day 7: Feature engineering for better model performance  
Day 8: Train-test split, preparing data for model training  
Day 9: Train a RandomForest classifier  
Day 10: Live Q&A and code review session  
Weekend Assignment: Complete model training and prepare a feature engineering report

# Week 3: Model Evaluation & Optimization

Day 11: Evaluating model performance (metrics and plots)  
Day 12: Hyperparameter tuning for better accuracy  
Day 13: Preventing overfitting with cross-validation and model improvements  
Day 14: Review of model performance and improvements  
Day 15: Live Q&A and troubleshooting session  
Weekend Assignment: Model evaluation and report submission

# Week 4: Model Deployment via Flask API

Day 16: Introduction to Flask and building APIs  
Day 17: Serving the trained model via Flask API (POST endpoint)  
Day 18: Testing the API with Postman and Python requests  
Day 19: Error handling, logging, and preparing API for production  
Day 20: Live Q&A, final project review, and code clean-up  
Weekend Assignment: Final deployment and demo session