Task 4: Predicting Customer Churn in Telecom
🎯 Objective: Use a machine learning model to predict whether a customer will churn (leave the service) based on customer data.

Tools Required: Python (Pandas, Matplotlib, Seaborn, numpy, scikit-learn)

Deliverables: Jupyter Notebook

Hints / Mini Guide:

- Use LabelEncoder for binary categorical data (e.g., Yes/No).
- Use OneHotEncoder for multi-class features (e.g., Contract type).
- Scale features using StandardScaler() for models like Logistic Regression.
- Visualize feature importance using .feature_importances_ from RandomForest.
- Save your model using joblib or pickle for deployment later.

Dataset names from Kaggle suitable for this Task:
Use "Telco customer churn dataset"

By completing this task, you will:

- Understand the full ML workflow from EDA to evaluation
- Gain confidence in using scikit-learn's ML tools
- Build a presentable project for portfolio and GitHub
- Learn to select and evaluate multiple models
- Improve Python coding practices

Interview Questions Related To Above Task:

- What is the difference between overfitting and underfitting?
- Why is feature scaling important?
- What evaluation metric would you choose for imbalanced data and why?
- How does a Random Forest work?
- What steps would you take if your model had low accuracy?

DATA ANALYTICS INTERNSHIP

Task Submission Guidelines

⏰ Time Window: You can complete the task anytime between 10:00 AM of Assigned task to 10:00 AM of next day. Submission link closes at 10:00 AM of next day

🔍 Self-Research Allowed: You are free to explore, Google, or refer to tutorials to understand concepts and complete the task effectively.

🛠️ Debug Yourself: Try to resolve a l errors by yourself. This helps you learn problem-solving and ensures you don't face the same issues in future tasks.

💸 No Paid Tools: If the task involves any paid software/tools, do not purchase anything. Just learn the process or find free alternatives.

📂 GitHub Submission: Create a new GitHub repository for each task. Add everything you used for the task — code, datasets, screenshots (if any), and a short README.md explaining what you did.

📤 Submit Here: After completing the task, paste your GitHub repo link and submit it using the link below:
[Submission Link]