**Title: Predicting Circuit Failure**

Objective:

Build a machine learning model to predict circuit failure based on temperature values, voltage values, and radiation measurements of different circuit components.

Dataset:

CSV file has the following columns:

1. V1: Vaux Auxiliary supply: expected value 1.8v
2. V2: Vddr3 DDR supply: expected value 1.35v
3. V3: Vcore Core supply: expected value 1v
4. V4: Vtt expected value 0.675v
5. V5: Vcco board voltage expected value 3.3v
6. T1: Temperature of FPGA
7. T2: Temperature of PMIC
8. Annotation (0 -> OK or 1 -> failure)
9. Timestamp: time stamps in the radiation
10. Radiation rate Gy/h

Task:

1. **Data Exploration:**
   * Explore the dataset to understand the distribution of each feature.
   * Check for any missing values and handle them appropriately.
   * Visualize the relationships between different features and the target variable.
2. **Data Preprocessing:**
   * Standardize or normalize numerical features if necessary.
   * Encode categorical variables if there are any.
3. **Feature Selection:**
   * Identify important features that contribute to the prediction.
   * Justify your choice of features.
4. **Model Building:**
   * Split the dataset into training and testing sets.
   * Choose at least two classification algorithms (e.g., Random Forest, Logistic Regression, Support Vector Machine, etc.).
   * Train the models on the training set.
5. **Model Evaluation:** 
   * Evaluate the performance of each model using appropriate metrics (e.g., accuracy, precision, recall, F1-score).
   * Compare the performance of the models.
6. **Hyperparameter Tuning (Optional):**
   * If applicable, perform hyperparameter tuning to improve model performance.