**Report**

**Task-1**

**Tagging Approach**

To tag the fields in the dataset, the following structured process was followed:

1. **Root Cause**:  
   This field identifies the primary reason for the issue. Tags were assigned by analysing the problem description and identifying key phrases that explained why the issue occurred. For example, Not Tightened, Not Installed, Loose, Leaking etc.
2. **Symptom\_ Condition**:  
   This represents the visible or reported condition caused by the issue. Tags were based on observable or reported signs such as Won’t stay open, rushed, missing, Broke, error etc.
3. **Symptom\_ Component**:  
   This focuses on the part of the system affected by the issue. By reviewing technical descriptions, we tagged affected components like cab p clip, Fuel door, compressor pressure line, vector, coupler etc.
4. **Fix\_ Condition**:  
   This field describes the state or conditions that were necessary to resolve the issue. Tags like retightened, Installed, replaced, cleaned, repaired etc.
5. **Fix\_ Component**:  
   Here, we identified the part that needed fixing or replacement. Tags such as cab p clip, gas strut, braided steel, o- ring, vector, sensor etc.

**Potential Insights from a Larger Dataset**

If a similar dataset with 10,000 rows were available, it could provide deeper and more actionable insights, including:

1. **Root Cause Trends**:  
   Identifying the most common root causes, which can guide preventative measures or improvements in design.
2. **Symptom Analysis**:  
   Understanding patterns in symptoms can help in quicker issue detection and prediction of failures before they occur.
3. **Component Vulnerability**:  
   Frequent occurrences of certain components as "Symptom\_ Component" or "Fix\_ Component" can indicate design weaknesses or quality issues.
4. **Effective Fixes**:  
   By Analysing the effectiveness of different fixes, the organization can optimize repair processes and reduce downtime.
5. **Clustered Patterns**:  
   Advanced analytics, such as clustering techniques, could reveal hidden relationships between root causes, symptoms, and fixes.

By combining these insights, organizations can reduce costs, enhance system reliability, and improve customer satisfaction. A systematic approach to tagging ensures accurate analysis and meaningful outcomes.