**Reflexons Hackathon Problem Statements**

### Web Development Problems

1. **E-commerce Platform for Local Artisans**
   * Design and develop a responsive e-commerce platform where local artisans can showcase and sell their handmade products online.
2. **Online Learning Portal**
   * Create an interactive online learning portal for students, offering courses with multimedia content, quizzes, and progress tracking.
3. **Job Search Platform**
   * Build a job search platform that aggregates job listings from various sources and provides personalized job recommendations.
4. **Social Media Analytics Dashboard**
   * Develop a dashboard for analyzing social media trends and engagement metrics using data visualization techniques.
5. **Event Management Platform**
   * Create a comprehensive event management platform that allows users to organize, promote, and manage events efficiently.

### Android App Development Problems

1. **Fitness Tracking App**
   * Design and develop a mobile app that tracks users' fitness activities, including exercise routines, calorie intake, and progress tracking.
2. **Language Learning App**
   * Build an app to help users learn a new language through interactive lessons, quizzes, and speaking exercises.
3. **Task Management App**
   * Create a task management app that allows users to organize and prioritize tasks, set reminders, and collaborate with others.
4. **Recipe Sharing App**
   * Develop a recipe sharing app where users can discover, save, and share their favorite recipes with a community of food enthusiasts.
5. **Weather Forecast App**
   * Design a weather forecast app that provides accurate and real-time weather updates, including temperature, humidity, and precipitation.

### Data Analysis Problems

1. **Customer Segmentation Analysis**
   * Perform customer segmentation analysis on a retail dataset to identify distinct customer groups based on purchasing behavior and demographics.
2. **Sentiment Analysis on Social Media Data**
   * Analyze sentiment from social media posts to understand public opinion and trends related to specific topics or brands.
3. **Predictive Maintenance for Equipment**
   * Develop a predictive maintenance model using sensor data to forecast equipment failures and optimize maintenance schedules.
4. **Financial Fraud Detection**
   * Build a fraud detection system using transactional data to identify suspicious activities and prevent financial fraud.
5. **Healthcare Data Analysis**
   * Analyze healthcare data to identify patterns and correlations that can improve patient outcomes or optimize healthcare resource allocation.

### AI/ML/Cybersecurity Problems

1. **Phishing Detection System**
   * Develop an AI-powered system to detect and prevent phishing attacks in email communications using machine learning and natural language processing (NLP) techniques.
2. **Image Recognition for Autonomous Vehicles**
   * Build an image recognition model for autonomous vehicles to identify objects, pedestrians, and road signs from camera feeds.
3. **Speech Recognition System**
   * Create a speech recognition system capable of transcribing spoken language into text with high accuracy and low latency.
4. **Malware Classification**
   * Develop a machine learning model to classify different types of malware based on behavioral patterns and file attributes.
5. **Anomaly Detection in Network Traffic**
   * Implement an anomaly detection system to identify suspicious behavior and intrusions in network traffic using machine learning algorithms.

These problem statements cover a range of interesting and challenging tasks across various domains, providing participants with opportunities to apply their skills and creativity in solving real-world problems. Participants are encouraged to leverage relevant technologies and tools based on their expertise and project requirements.