

Task 4

ML Problem Types

Marks: 20

Time: 15 minutes

This task is based on your real-world understanding and ability to identify what kind of problem it is. Identify the type of ML problem. Mention whether a problem is Classification / Regression / Clustering / Association / Reinforcement type.

List the type of problem for the problems you specified in Task3 for the following domains

| S.No | Healthcare | Type |
|------|--|---|
| 1 | Disease Diagnosis: Early and accurate diagnosis of diseases such as cancer, diabetes, and cardiovascular conditions. | Classification / Clustering |
| 2 | Drug Discovery: Identifying and designing new drugs and therapies for various diseases. | Classification / Regression / Reinforcement |
| 3 | Mental Health Monitoring: Developing tools for continuous monitoring and early intervention in mental health conditions. | Reinforcement |

| S.No | Education | Type |
|------|---|--|
| 1 | Student Performance Prediction: Predicting student success or failure and identifying students at risk of dropping out. | Classification / Regression / Clustering |
| 2 | Adaptive Testing: Creating adaptive assessments that adjust difficulty based on a student's performance. | Reinforcement |
| 3 | Educational Data Security: Ensuring the security and privacy of student and teacher data in educational systems. | Classification |



| S.No | Banking | Type |
|------|--|---|
| 1 | Credit Scoring: Assessing the creditworthiness of loan applicants based on their financial history and other data. | Regression |
| 2 | Fraud Detection: Identifying fraudulent transactions and activities to prevent financial losses. | Regression / Clustering / Reinforcement |
| 3 | Risk Management: Assessing and managing financial risks associated with investments, loans, and portfolios. | Classification / Regression / Clustering / Reinforcement |

| S.No | E-Commerce | Type |
|------|--|---|
| 1 | Product Recommendation: Recommending products to customers based on their browsing and purchase history. | Reinforcement / Association |
| 2 | Customer Segmentation: Grouping customers based on behavior, preferences, and demographics for targeted marketing and product recommendations. | Clustering / Classification / Reinforcement |
| 3 | Personalized Shopping Experience: Personalizing the entire shopping journey, including homepage customization, content recommendations, and email marketing. | Clustering / Reinforcement |

| S.No | Your Problems | Type |
|------|---|--------------------------------|
| 1 | Travel Planning: Planning trips, finding deals, and optimizing travel itineraries. | Reinforcement |
| 2 | Relationship and Dating: Navigating relationships, dating, and compatibility. | Reinforcement / Association |
| 3 | Time Management: Optimizing your daily schedule and tasks for maximum productivity and work-life balance. | Reinforcement / Clustering |

