Task 4

ML Problem Types

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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 Domain	Type
1	Predicting early onset of chronic diseases using wearable sensor data	Classification
2	AI-powered personalized treatment plans based on patient history and genomics	Reinforcement
3	Optimizing hospital resource allocation during pandemics / emergency	Clustering
4	Real-time analysis of medical imaging for detecting rare conditions.	Classification

	5	Robotic assistants for elderly care, equipped with AI for monitoring and support.	Reinforcement

S.No	Education Domain	Type
1.	AI-powered adaptive learning platforms tailored to student behavior	Reinforcement
2.	Detecting plagiarism using Natural Language Processing.	Classification
3.	Predicting dropout rates using historical student performance data.	Regression
4.	AI-generated real-time feedback for students during virtual classes.	Clustering
5.	Robotic tutors for personalized, hands-on STEM education.	Reinforcement

S.No	Banking Domain	Type
1.	Banking Detecting fraudulent transactions using transaction pattern analysis.	Classification
2.	Banking Predicting loan defaults using customer credit history.	Regression
3.	Banking Real-time chatbot for personalized financial advice.	Reinforcement
4.	Banking Dynamic risk assessment for investment portfolios.	Clustering
5.	Banking Robotic bank tellers for efficient and secure transactions.	Reinforcement

S. No	E-Commerce Domain	Difficulty
1.	AI-powered product recommendation engine	Association
2.	Dynamic pricing based on real-time demand and competition.	Regression
3.	AI-driven virtual shopping assistants for personalized experience.	Reinforcement
4.	Predicting product return probability based on user behavior / Sales and Price prediction during sales of different items from different platform like Walmart, Fresh Co, Costco and different shops.	Classification
5.	Robotic warehouse assistants for efficient order fulfillment/ Drone Delivery	Reinforcement

S. No	Your Problems	Type
1.	AI-powered household robot for tasks like cleaning, cooking, and organizing, allowing users to focus on personal and professional growth	Reinforcement
2.	AI-based meal planner that optimizes nutrition based on health data and local grocery availability. Schedule assistant which keep tracks for me of everything my job timings, college timings, Gym assistant which keeps track of workout routine and meal prep.	Clustering
3.	Predictive model for financial planning, integrating personal goals and market	Regression

	trends. (Like where to invest when what amount should I send to India to repay my loan, amount which I should save and invest in stocks or TFSA according to my income each month)	
4.	AI-driven language learning assistant that adapts to user pace and suggests real-world practice scenarios and talks to you. This will help me a lot to learn French. As French is the second language of Canada which ultimately help me be fit for a bilingual job role as well as improve my skills for Test d'évaluation de français (TEF) exam.	Reinforcement
5.	My 5th Problem is already solved by newly released Nvidia 50 Series Graphic Card. The latency and fps were pretty low for few AAA Games. It introduces **DLSS 4.0** and **Transformer Neural Rendering**, leveraging AI to upscale resolution, generate frames, and enhance realism. Combined with **MFG (Multi-Frame Generation)**, these GPUs deliver up to 2x the performance of the 40 Series, with frame rates jumping from 60 FPS to over 120 FPS in supported titles, ensuring smoother gameplay and unmatched visual fidelity.	Regression