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Scenario Based Learning

A company works with number of employees, all the works are dependents on the employees. Even if one of the employees resign the job immediately then assigned work will be not finished at the time, so delivery of the project to the clients will be delayed. Company planned to make solution for this, they want to know which employee may resign next. If they know previously, they can arrange alternative to avoid such problem. As an AI Engineer you must give Solution to this.

A) How will you achieve this in AI?

1.Input Type: The input includes employee details and status updates, which may contain textual data — so **Natural Language Processing (NLP)** techniques may be required.

2.Learning Type: The goal is to predict future resignation behavior based on labeled historical data — this is a **Supervised Learning** problem.

3.Data Format: The dataset includes structured numerical and categorical features with known outcomes (resignation status).

4.Problem Type: Since the output is a categorical label (e.g., "Yes" or "No"), this is a **Classification** problem.

B) Find out the 3 -Stage of Problem Identification

Stage	Description
1. Machine Learning (ML)	Using algorithms to learn patterns from employee data
2. Supervised Learning	Training on labeled data to predict resignation likelihood
3. Classification (not Regression)	Predicting categorical outcomes ("Yes" or "No")

C) Name the project

Employee Resignation Risk Predictor

D) Create the dummy Dataset.

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Name	Status	Next Resign
David	Planned to resign	Yes
John	Not yet	No
Kumar	Planned to resign	Yes
Abdul	Not yet	No
Rajesh	Not yet	No