**Scenario:**  
A company works with a number of employees, and all the works are dependent on the employees. Even if one of the employees resigns from the job immediately, then the assigned work will not be finished on time, so the delivery of the project to the clients will be delayed. The company plans to make a solution for this — they want to know which employee may resign this month or next. If they know previously, they can arrange an alternative to avoid such problems. As an AI Engineer, you must give a solution to this.

**Questions:**  
A) How will you achieve this in AI?  
B) Find out the 3 stages of Problem Identification  
C) Name the project  
D) Create the dummy dataset

**Answers**:

1. This can be achieved using **Predictive Analytics with Machine Learning (supervised learning).**
2. The three stages of problem identification:

* Machine learning
* Supervised Learning
* Classification

3.Project name: “Employment Resignation prediction system”

4. Dummy dataset:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Employee\_ID | Age | Gender | Department | Salary | Experience\_Years | Job\_Satisfaction | Performance\_Score | Promotion\_Last\_2Yrs | Work\_Life\_Balance | Distance\_From\_Home | Attrition |
| E001 | 28 | M | IT | 40000 | 3 | 3 | 4 | No | 3 | 10 | No |
| E002 | 35 | F | HR | 55000 | 7 | 5 | 5 | Yes | 4 | 5 | No |
| E003 | 26 | M | Sales | 30000 | 2 | 2 | 3 | No | 2 | 20 | Yes |
| E004 | 40 | F | Finance | 60000 | 10 | 4 | 5 | Yes | 4 | 6 | No |
| E005 | 30 | M | IT | 42000 | 5 | 3 | 4 | No | 3 | 15 | Yes |
| E006 | 45 | F | Marketing | 70000 | 12 | 5 | 5 | Yes | 4 | 4 | No |
| E007 | 29 | M | IT | 38000 | 4 | 2 | 3 | No | 2 | 18 | Yes |
| E008 | 33 | F | HR | 52000 | 6 | 4 | 4 | Yes | 4 | 7 | No |
| E009 | 37 | M | Finance | 58000 | 9 | 3 | 4 | No | 3 | 9 | No |
| E010 | 25 | F | Sales | 31000 | 2 | 2 | 2 | No | 2 | 22 | Yes |