Ideation Phase
Define the Problem Statements

Date	27th January 2025
Team ID	LTVIP2025TMID36392
Project Name	Enchanted Wing: Marvels of Butterfly Species
Maximum Marks	2 Marks

1. Problem Space

Butterfly species identification plays an important role in ecological research and biodiversity monitoring. Traditionally, this process is manual, time-consuming, and depends on expert knowledge. Students and researchers face challenges due to a lack of real-time tools and visual similarities between species.

Thus, there's a clear need for an **automated, accurate, and user-friendly solution** to classify butterfly images efficiently.

2. Finalized Problem Statement:

"To develop a deep learning-based image classification system that can accurately identify butterfly species from images using a trained MobileNetV2 model, supported by an interactive web interface built with Streamlit, achieving at least 90% accuracy."

I am	Describe customer with 3-4 key characteristics - *who are they?*	Describe the customer and their attributes here
I'm trying to	*List their outcome or "job" the care about - what are they trying to achieve?*	List the thing they are trying to achieve here
but	Describe what problems or barriers stand in the way – *what bothers them most?*	Describe the problems or barriers that get in the way here
because	Enter the "root cause" of why the problem or barrier exists – *what needs to be solved?*	Describe the reason the problems or barriers exist
which makes me feel	Describe the emotions from the customer's point of view – *how does it impact them emotionally?*	Describe the emotions the result from experiencing the problems or barriers

Example:

PS-1

Prompt	Response
I am (Customer)	a biology student or researcher
I'm trying to	identify butterfly species accurately and quickly
But	I find it difficult to distinguish between similar-looking species
Because	manual identification requires expert knowledge and reference materials
Which makes me feel	frustrated and dependent on others for confirmation

PS-2

Prompt	Response
I am (Customer)	a nature enthusiast or citizen scientist
I'm trying to	understand the biodiversity of butterflies during field visits
But	I don't have tools that can help me identify species on the spot
Because	most apps are not accurate or don't support local species
Which makes me feel	limited in my exploration and disconnected from scientific insight