**Ideation Phase**

**Brainstorm & Idea Prioritization Template**

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| Date | 30 june 2025 |
| Team ID | LTVIP2025TMID31783 |
| Project Name | smartSDLC-AI-enhanced software development lifecycle |
| Maximum Marks | 4 Marks |

# Step-1: Team Gathering, Collaboration and Select the Problem Statement

Problem Statement:   
"The Software Development Lifecycle (SDLC) is often fragmented, time-consuming, and error-prone. Developers and teams struggle with manual tasks like code generation, bug fixing, test case writing, and documentation. These inefficiencies slow down development cycles and hinder collaboration, leading to delayed project deliveries."

# Step-2: Brainstorm, Idea Listing, and Grouping

Ideas:

1. NLP-based Requirement Analysis: Automatically convert unstructured requirements into actionable user stories and tasks.

2. Automated Code Generation: Leverage AI to generate code directly from user stories and requirements.

3. AI-driven Bug Detection and Fixing: Automatically identify bugs in the code and provide suggestions or fixes.

4. Test Case Generation: Automatically generate test cases based on user stories and code changes.

5. Code Summary Generation: Use AI to summarize complex code for better understanding and collaboration.

6. Chatbot Assistance: Implement an AI-powered chatbot to assist developers, testers, and project managers throughout the SDLC.

# Step-3: Idea Prioritization

Prioritization Criteria:   
- Impact (High, Medium, Low)   
- Feasibility (High, Medium, Low)

Prioritized Ideas:

1. NLP-based Requirement Analysis (High Impact, High Feasibility)

2. Automated Code Generation (High Impact, Medium Feasibility)

3. AI-driven Bug Detection and Fixing (Medium Impact, High Feasibility)

4. Test Case Generation (Medium Impact, Medium Feasibility)

5. Code Summary Generation (Low Impact, Medium Feasibility)

6. Chatbot Assistance (Medium Impact, High Feasibility)