**Module Code (FC723)**

**Class/Group: (Group C)**

**Module Title (Programming Theory)**

**Assessment Title (Project 1)**

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**I confirm that this assignment is my own work.**

**Where I have referred to academic sources, I have provided in-text citations and included the sources in the final reference list.**

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**Part A, Q1**

For the development of the seat-booking system for Apache Airlines, I have chosen the Waterfall Software Development Process. The Waterfall model is a linear and sequential approach to software development, where each phase must be completed before moving on to the next. It consists of the following main stages:

1- Requirements Gathering and Analysis.

2- System Design.

3- Implementation (Coding).

4- Testing.

5- Deployment.

6- Maintenance.

Reasons:

**Clear and Well-Defined Requirements**

The Apache Airlines project has already provided a detailed system description, including a seat layout diagram and a list of required functionalities. Since the requirements are unlikely to change during development, the Waterfall model is suitable because it works best when everything is known from the start.

**Strong Focus on Documentation**

Waterfall places a strong emphasis on documentation at every phase, which aligns with the academic requirement of this project. Each stage (e.g., functional specifications, activity diagrams, UML, and version control steps) can be clearly documented and presented.

**Simple and Easy to Manage**

Waterfall is straightforward to plan and track. It suits small- to medium-sized projects like this one, where all team members (or a single student developer) can follow a step-by-step approach without the need for iterative feedback loops or changing scope.