# FC723 Application Part A

1. Software Development process:

For the project, I will be using the Waterfall development model because:

1. Clear Requirements: The project has defined and clear requirements: seat booking, availability checking, database integration)
2. Predictable phases: Given that the project involves initial development then database integration (at a later stage). This model allowed a structured progression of tasks.
3. Documentation-Heavy: Since the project includes diagrams, requirements specifications, and written essays. Waterfall allows the opportunity to produce documentation and necessary things to mention at each phase.
4. Functional Requirements:
   1. Check Seat Availability: The system shall allow users to check the availability of seats. Available seats are marked as 'F' (free), and booked seats are marked as 'R' (reserved).
   2. Seat Booking: The system shall allow users to book an available seat. Upon successful booking, the seat will be marked as 'R'.
   3. Seat freeing: The system shall allow users to free a booked seat. Upon freeing, the seat will be marked as 'F'.
   4. Show Booking Status: The system shall display the current seat status (free or booked) for all seats.
   5. Exit program: The system shall allow users to exit the program easily.
5. Activity diagram:

