UNIVERSITI KUALA LUMPUR

MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY

TEST

MARCH 2025 SEMESTER

COURSE CODE	**ISB 37904**
COURSE NAME	**SOFTWARE QUALITY AND CONFIGURATION MANAGEMENT**
PROGRAMME NAME	**BIT (HONS) IN SOFTWARE ENGINEERING (BSE)**
DURATION	**1.5 HOURS**
DATE & TIME	**21/4/2025 5.30PM – 7PM**
LECTURER	**TS DR AZALIZA ZAINAL**
TOTAL MARKS	**20 Marks**
STUDENT NAME	**AHMAD HAZIQ BIN ABDUL AZIZ**
STUDENT ID	**52213122387**

ANSWER ALL QUESTIONS.

QUESTION 1

KampungKu Homestay (KKH) is situated in Kemaman Terengganu. KKH have a group of houses registered under their company. They provide accommodation with cheaper rental price compared to a hotel room. After 5 years, KKH decided to expand their business and reaching more customer through digital platform.

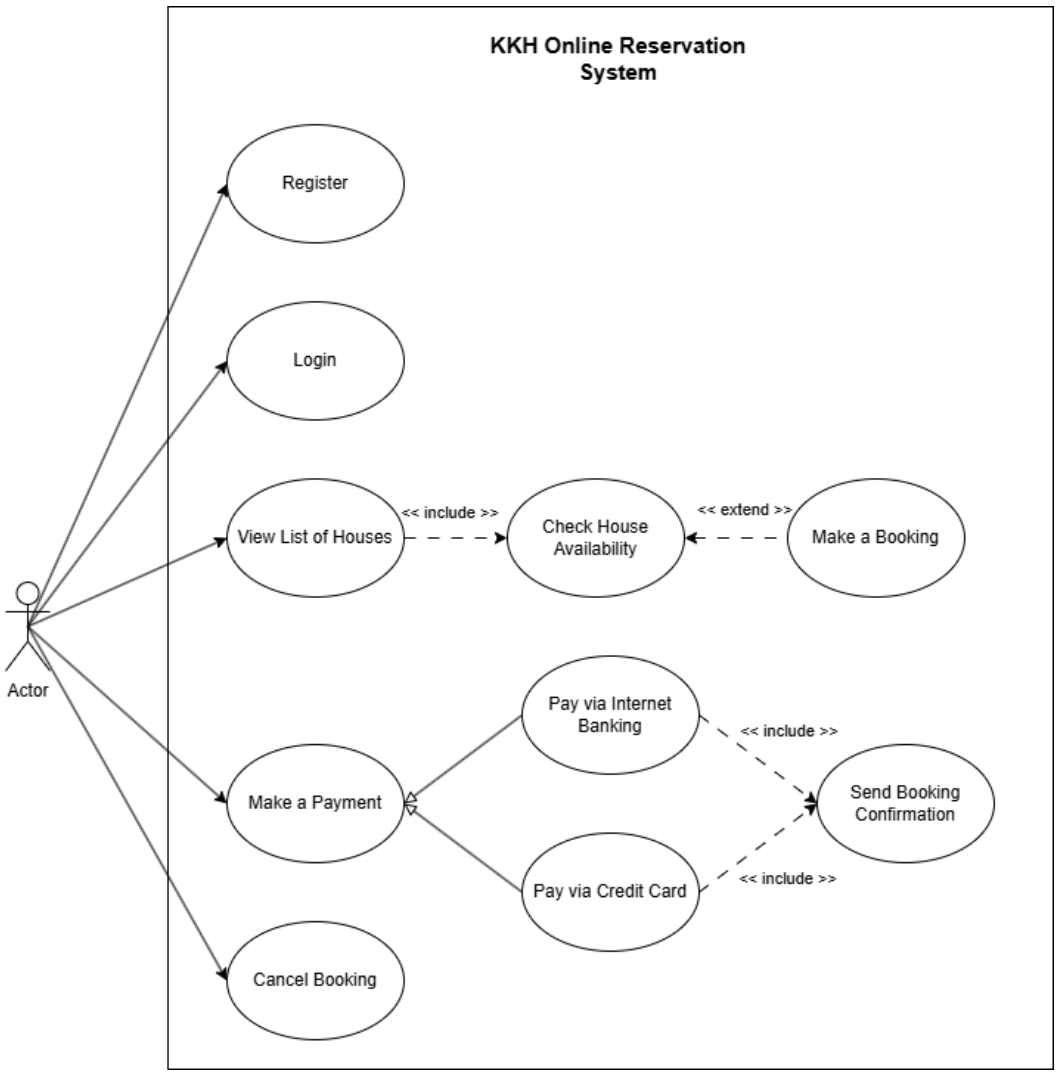
KKH planned to have an online reservation system. Before using the system, the customer needs to register and login into their website. Then, they can view the list of houses and check the availability of the houses. If it is available, the customer can make a booking and pay the booking

fees. They can choose the payment method either using a credit card or through an internet banking. Then the system will send a confirmation booking to the customer. The customer can also cancel their booking without any refund.

Based on the above scenario, answer the following questions:

a) Draw a use case diagram that suits the given scenario.

(10 marks)



b) Based on the produced use cases, construct any **FIVE** (5) software quality metrics that are appropriate to be implemented in the system development.

(10 marks)

1. **Usability metric (Learning Time for New Users)**
   The system should measure the average time it takes for a new user to successfully register, log in, and complete their first booking, ensuring the interface is intuitive and easy to navigate.

2. **Reliability Metric (Mean Time Between Failures)**
   The system must track the average duration between failures, such as crashes or downtime, to ensure stability and reliability, particularly during peak booking periods.

3. **Performance Metric (System Response Time)**
   The system should record the average response time for key operations, such as loading house listings, processing bookings, and handling payments, to guarantee efficient performance under typical user loads.

4. **Security Metric (Time to Resolution for Vulnerabilities)**
   The system needs to measure how quickly identified security vulnerabilities, such as payment gateway flaws, are resolved to protect sensitive customer data and maintain trust.

5. **Maintainability Metric (Code Complexity)**
   The system should assess code maintainability by calculating the average Cyclomatic Complexity score per module, ensuring the codebase remains easy to update and expand in the future.

END OF QUESTION