

Part 1: Software Evolution

1. The performance or reliability of the system may require improvement.
2. a) Situation 1: Implementing new requirements
 Situation 2: Fixing bugs
 b) Situation 1: User interface will need to be updated
 Situation 2: New bugs may be introduced to the system

Part 2: Software Security

1. Inventory database, Payment records database, Customer information database
2. One possible security risk of the system is that an unauthorized user may gain access to the product inventory database and modify product information such as price or inventory, allowing for theft. This can be prevented by assigning permission levels to users, such that only users with a sufficient permission level can modify the product inventory database.
 Another possible security risk of the system is the customer information database. If an unauthorized user gains access to the customer information database, they will be able to access personal data of the customer, such as their name, card number, and address. To prevent this, customer data can be encrypted such that only the system can read the information, so that even if someone were to access the database, it would be unreadable.

Part 3: Learning Experience

1. In this tutorial, I learned about the duty of software engineers to maintain their software, and the necessity of keeping information secure.
2. For this assignment, I referred to the lecture slides, as well as information online about software security.
3. This assignment was challenging, as in order to find possible flaws in the system, it was necessary to think in the perspective of an attacker. For the next tutorial, I will explore and find more information regarding software security, and how to defend against attackers.