SSN College of Engineering

Department of Information Technology

UIT2312 – Programming and Design Patterns

2023 – 2024

Exercise – 08

November 06, 2023

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1. This homework is due by midnight of November 13 2023

2. You can upload only one ZIP file

3. The naming convention is "<Your first name (first letter capital and all the other letters small)>- UIT2312-ex-01.zip"

4. Judicious use of Python features and standard modules, version control using 'git', adhering to Python coding standards are expected

5. You are expected to use PSP0.1 process for all the code that you write!

The purpose of this exercise is to understand the concept of regular expression, exception and serialization.

In a chat application, messages sent between users are serialized and stored, allowing users to access their message history even after logging out and back in. Use the concept of RegEx and serialization to perform the following steps:

1. User Registration: Users can register with unique usernames and passwords, and the user data is serialized and stored securely. (RegEx)

2. User Authentication: Users log in securely with their credentials. (RegEx, exception & serialization)

3. Chat: Users can create conversations and send messages

4. Serialization and Storage: Each sent message is serialized using the `pickle` and 'JSON' modules and stored in the database. The sender's and recipient's IDs, timestamp, and the serialized message are saved.

5. Message Retrieval: Users can access their chat history by retrieving serialized messages from the database and deserializing them.

6. Search Functionality: Implement a search feature to find specific messages or conversations by searching through the serialized message data. (Iterate through the serialized modules)