



UNIVERSITY OF CALOOCAN CITY  
COMPUTER ENGINEERING DEPARTMENT



Data Structure and Algorithm

Laboratory Project

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# Progress Report 4

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*Submitted by:*

Filjohn Delinia  
Czer Justine Maringal  
Paul Justine Polestico  
Mark Angel Talagtag

*Instructor:*

Engr. Maria Rizette H. Sayo

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# PROGRESS REPORT

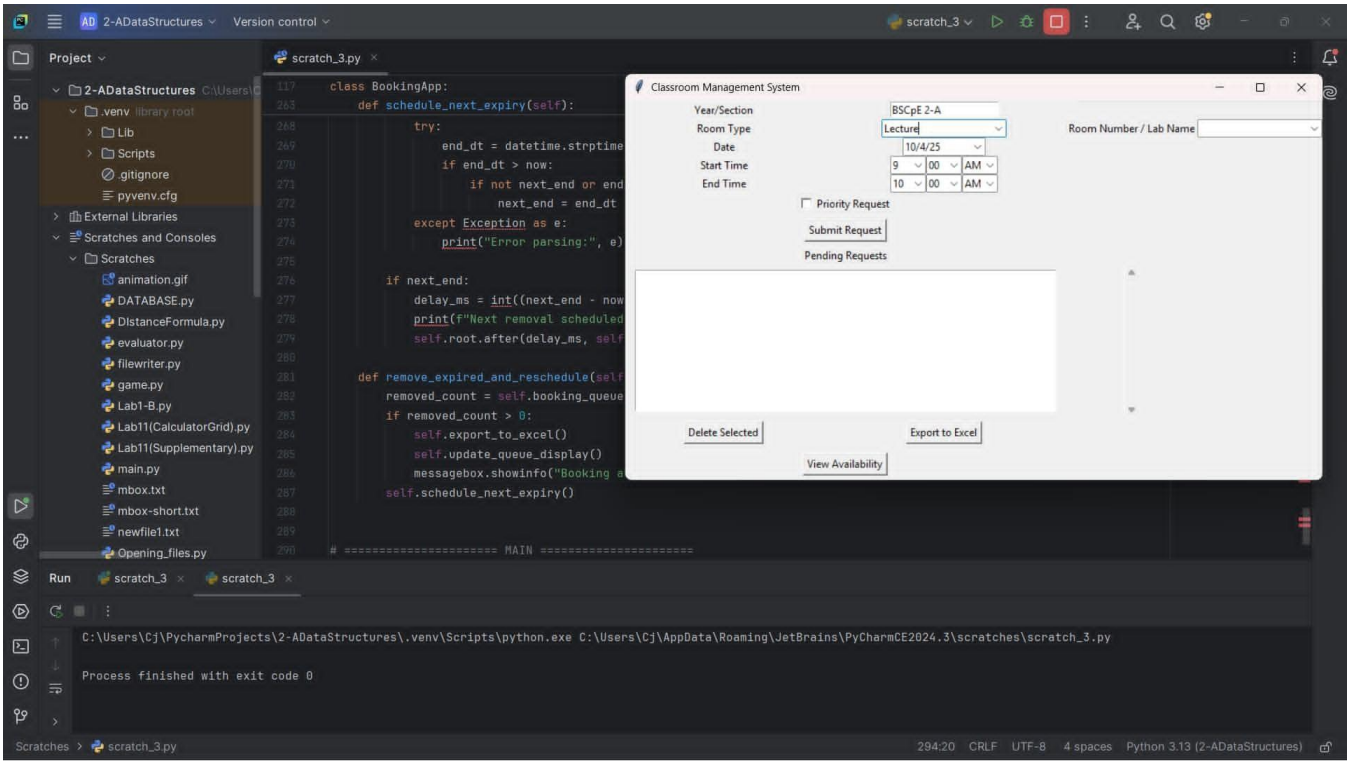
## Date and Time Management

Our system was improved a lot in terms of code, design, and user experience. We organized the code by making separate classes like TimeUtils, ExcelManager, RoomBookingQueue, and BookingApp so each has its own job. Error handling is now better, showing clear messages instead of crashing. The queue now follows the real FIFO order, and time handling is more accurate. The interface looks cleaner and easier to use with better layout and feedback. We also added proper logging instead of print statements and made sure Excel data is checked before loading. The code now has clear comments and type hints to make it easier to understand. The expiry system was made simpler, and the room availability feature now works completely.

### Architecture and Code Organization

- TimeUtils: Time conversion utilities
- ExcelManager: Excel file operations
- RoomBookingQueue: Pure queue logic
- BookingApp: UI and coordination Improved UI Proper logging system Better Expiry System simplified using dedicated time utilities Modular, testable components with single responsibilities

# INPUT AND OUTPUT



## REFERENCES

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