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ITMD – 513 Open Source Programming

Summer 2013 – MP3

This mini-project is to understand the basics of Python and get aware of its strengths.

The following concepts of Python are better understood through this project:

- Usage of Python GUI with the help of Tkinter
- Concept of Queues
- Classes and Objects
- Usage of Queues.PriorityQueue
- Tuples
- Dictionary
- Lists

The project is basically to inculcate a strong foundation in Python GUI and Object Oriented Programming using Python

System Requirement

- OS – Windows 7
- IDE – Eclipse
- Python 3.0

Insights

- **GUI_Driver** – This is the main file to be executed in the project
    - It takes the user input for any operation to be performed
    - Get – retrieves the first element from the list of objects at the priority selected
    - Put – inserts the task object of the kind (timestamp,task_descption) at the priority level given by the user
      where,
      timestamp – is the current day time
      task_descption – is the task description given by the user
    - Dump – displays all the elements in the PQ at every priority level

Code Structure

Files:

1. **GUI_Driver**

   This is the driver of the project

   Takes user input for selection of operation.

   Calls the appropriate function for operation from P**riorityQUtils**

   Uses the Class **Task** for creating the task objects

2. **PriorityQUtils**

   This has all the utility functions for the queue operations
   Get() , put(), dump () as described above

3. **Task**

   This is the class file for Task Objects.

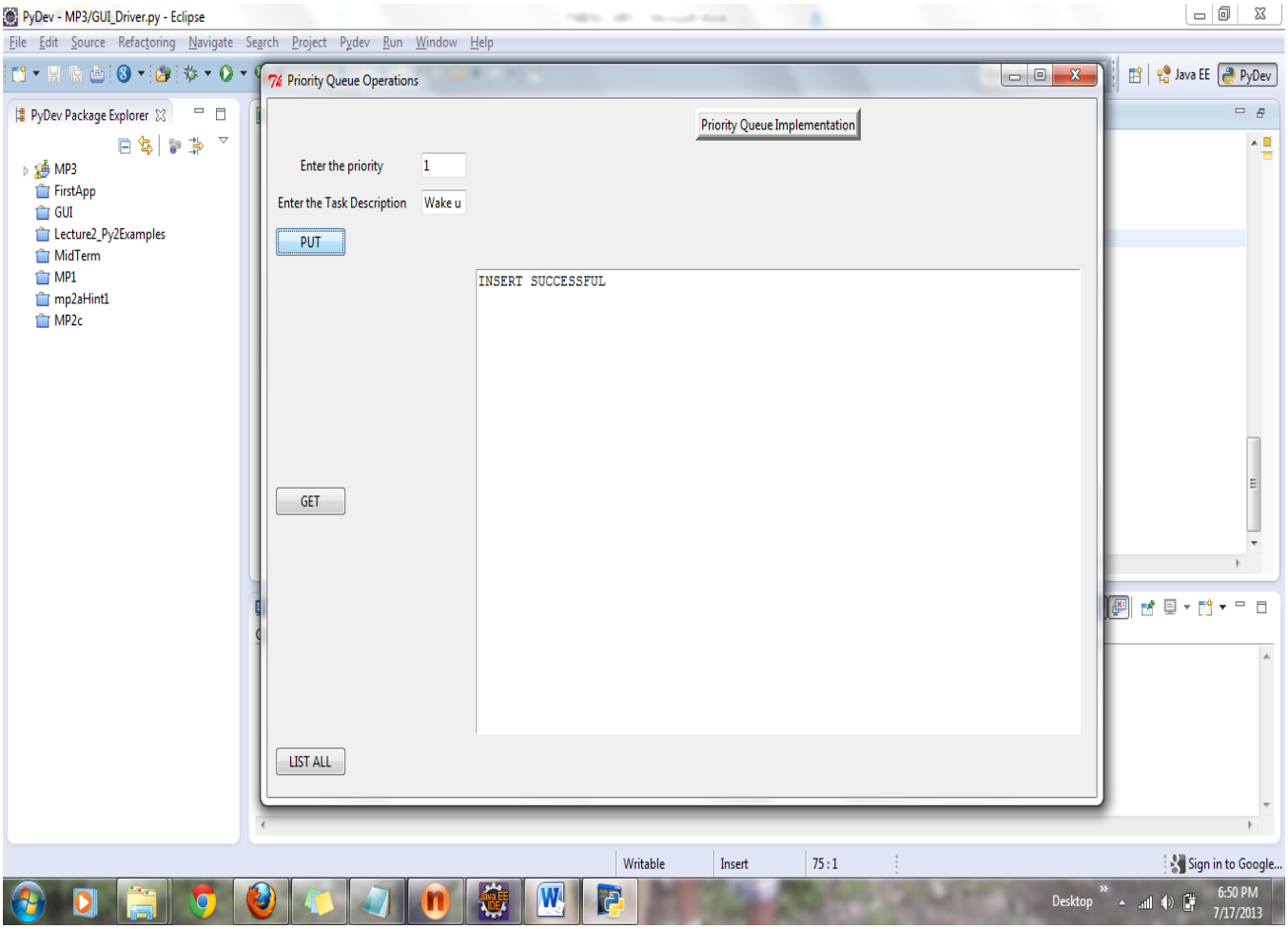
   It consists of set() and get() operations for the task objects.

   Set () – to set the values of task's timestamp, description

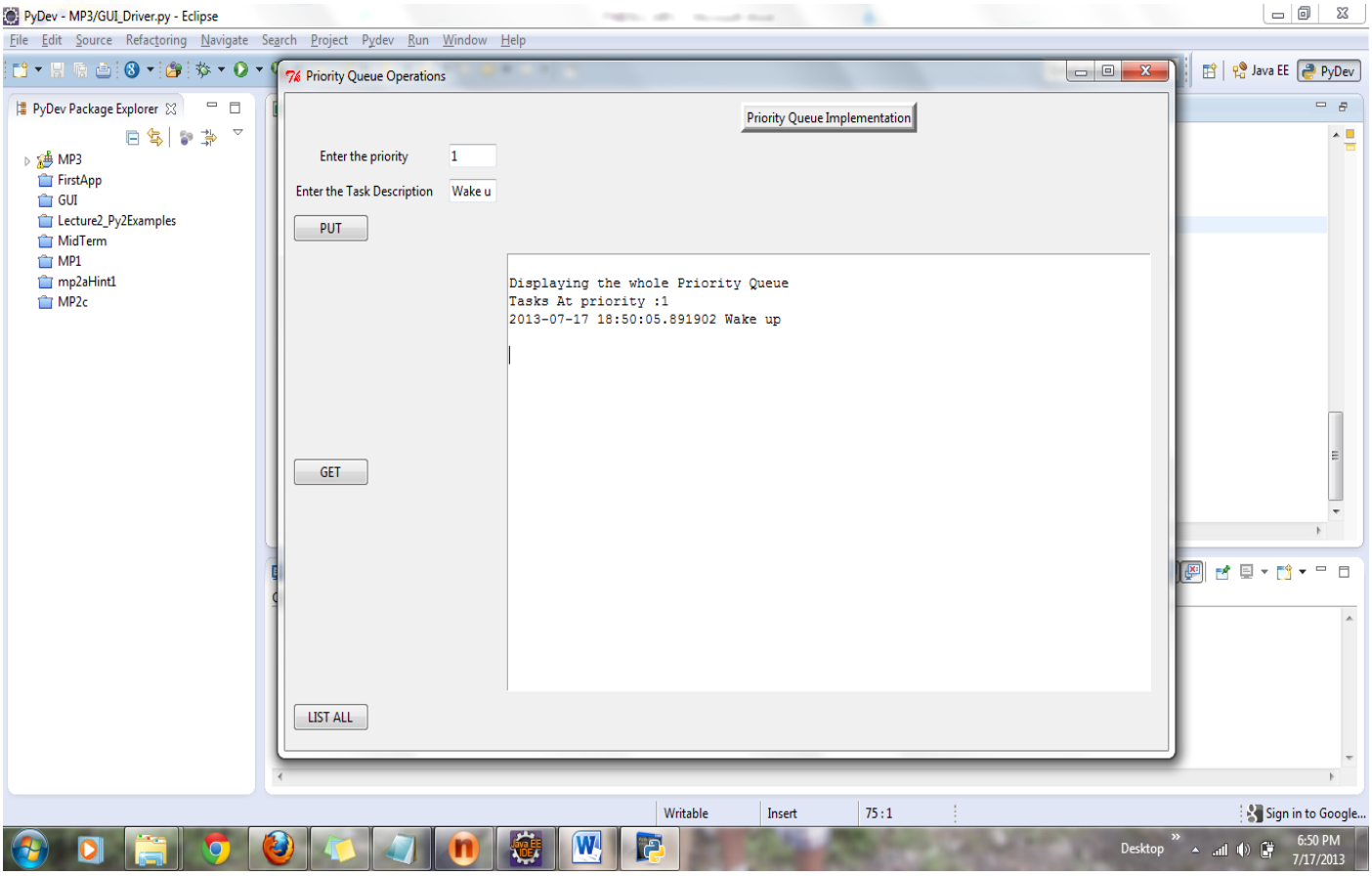
   Get () – to return the current task

Expected Results

- User is presented with a GUI
- When user decides to do the **put()** functionality,
  - User should enter appropriate values into 'Priority' and 'Task Description' fields
  - User clicks the button 'Put'
  - The new element is inserted at the priority selected by user with the current_time_stamp, task_decription

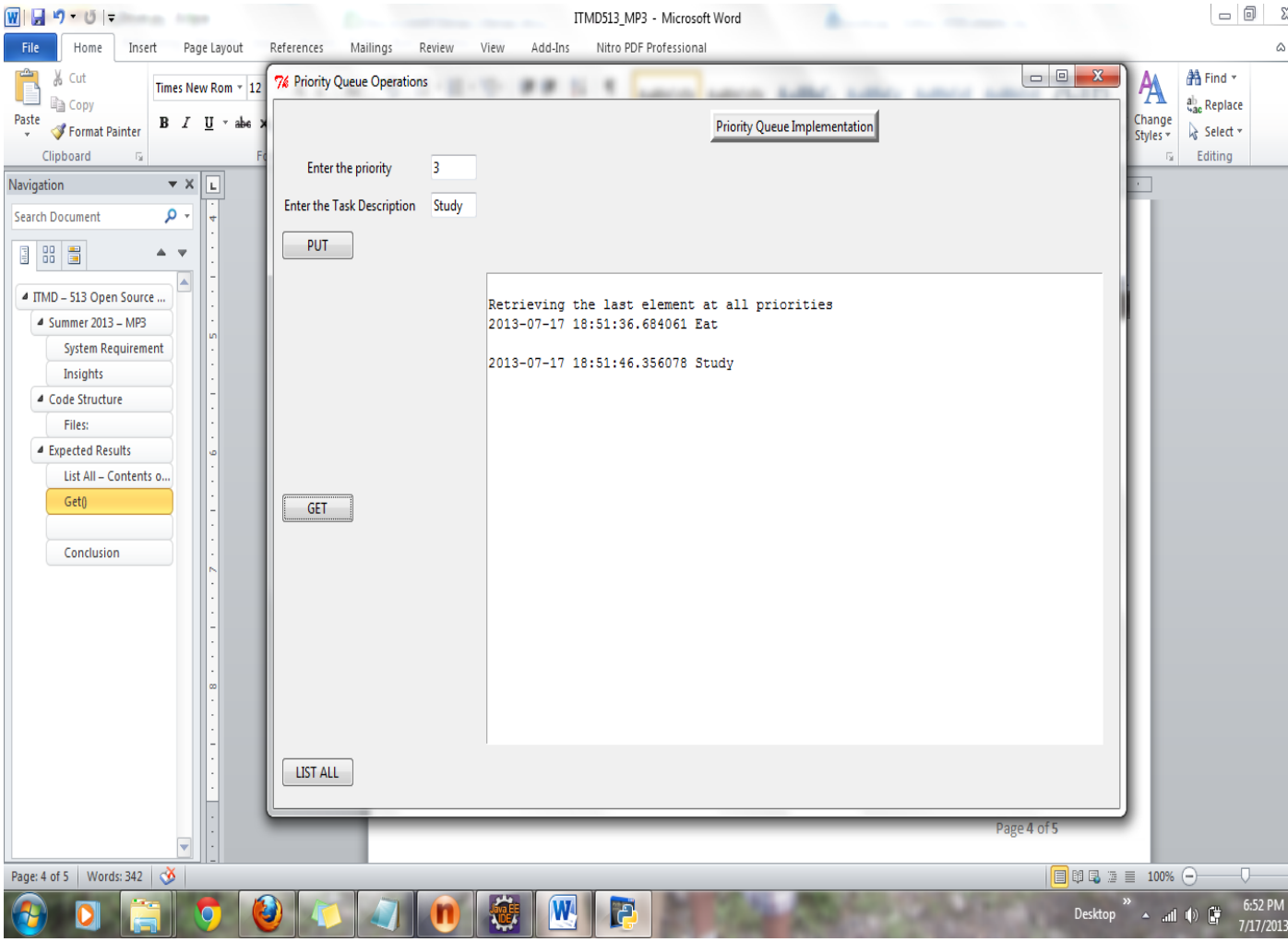


- **List All –** Contents of the priority queue are displayed



- **Get()**

First element from all priority positions are removed



Conclusion

Thus the implementation of the project successfully meets the requirements.