SSE2034: System Software Experiment 3
- Project 1: Library Management

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Library Management
Class Hierarchy

member.h

member

undergraduate

graduate

faculty

resource.h

resource

book

magazine

e_book

library.h

library

- Library should manage all resources and members in same class
**Input/Output Format**

- **Input:** operations on “resource”
- **Output:** result of input (success | fail)

**input.dat**

<table>
<thead>
<tr>
<th>Date[yy/mm/dd]</th>
<th>Resource_type</th>
<th>Resource_name</th>
<th>Operation</th>
<th>Member_type</th>
<th>Member_name</th>
</tr>
</thead>
<tbody>
<tr>
<td>19/03/20</td>
<td>Book</td>
<td>HarryPotter</td>
<td>B</td>
<td>Undergraduate</td>
<td>BruceLee</td>
</tr>
<tr>
<td>19/04/17</td>
<td>Book</td>
<td>HarryPotter</td>
<td>R</td>
<td>Undergraduate</td>
<td>BruceLee</td>
</tr>
</tbody>
</table>

**output.dat**

<table>
<thead>
<tr>
<th>Op_#</th>
<th>Return_code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>Success.</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Non exist resource.</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Exceeds your possible number of borrow. Possible# of borrows: <strong>1</strong></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>You did not borrow this book.</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>You already borrowed this book at <strong>19/03/20</strong></td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>Other member already borrowed this book. This book will be returned at <strong>19/04/13</strong></td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>Restricted member until <strong>19/03/27</strong></td>
</tr>
</tbody>
</table>
| 8    | 7           | Delayed return. You’ll be restricted until **19/04/02**}
Policy

• Delayed return policy
  – All “undergraduate” members can borrow 1 resource for 14 days from that day
  – “undergraduate” members restricted to borrow resources for delayed duration

• Date policy
  – 1 month = 30 days
  – 1 year = 12 months = 360 days

• Priority policy
  – Low return-code has high priority
Given Conditions

• All inputs are sorted by date
  – Same date policy: first-come-first-serve
• All resources and members have different name
• Must follow “class hierarchy” in previous slide
• Object of resources and members must managed inside of library
• Main code must only include declaration of library object with user-defined constructor
• You should manage your project with git!
  – No report, TAs will check your detailed commit log
Resource List

• Resource list is given as file
• Should initialize with this file at declaration of object of library

resource.dat

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book</td>
<td>HarryPotter</td>
</tr>
</tbody>
</table>
Submission

• Submit your project as git
  – Send git to minwoo.ahn@csl.skku.edu

• PLEASE DO NOT COPY
  – YOU WILL GET F GRADE IF YOU COPIED

• Due date: 11/5(Mon.), 23:59:59 PM
  – -25% per day for delayed submission
Questions

• If you have questions, please email to TAs

• You can also visit Semiconductor Building #400509
  – Please send email before visiting