



Java Software Development

Homework 5

Deadline: 2016/04/14 23:00

- Define a class named `Document` that contains an instance variable of type `String` named `text` that stores any textual content for the document.
- Create a method named `toString` that returns the `text` field.
- Create a mutator method for setting the value of the `text` field.

Document
text: String
+ toString(): String + setText(String): void

- Next, define a class for `Email` that is derived from `Document` and includes instance variables for the `sender`, `recipient`, and `title` of an email message. The body of the email message should be stored in the inherited variable `text`.
- You should implement appropriate accessor and mutator methods for the class fields. Redefine the `toString` method to concatenate all text fields.

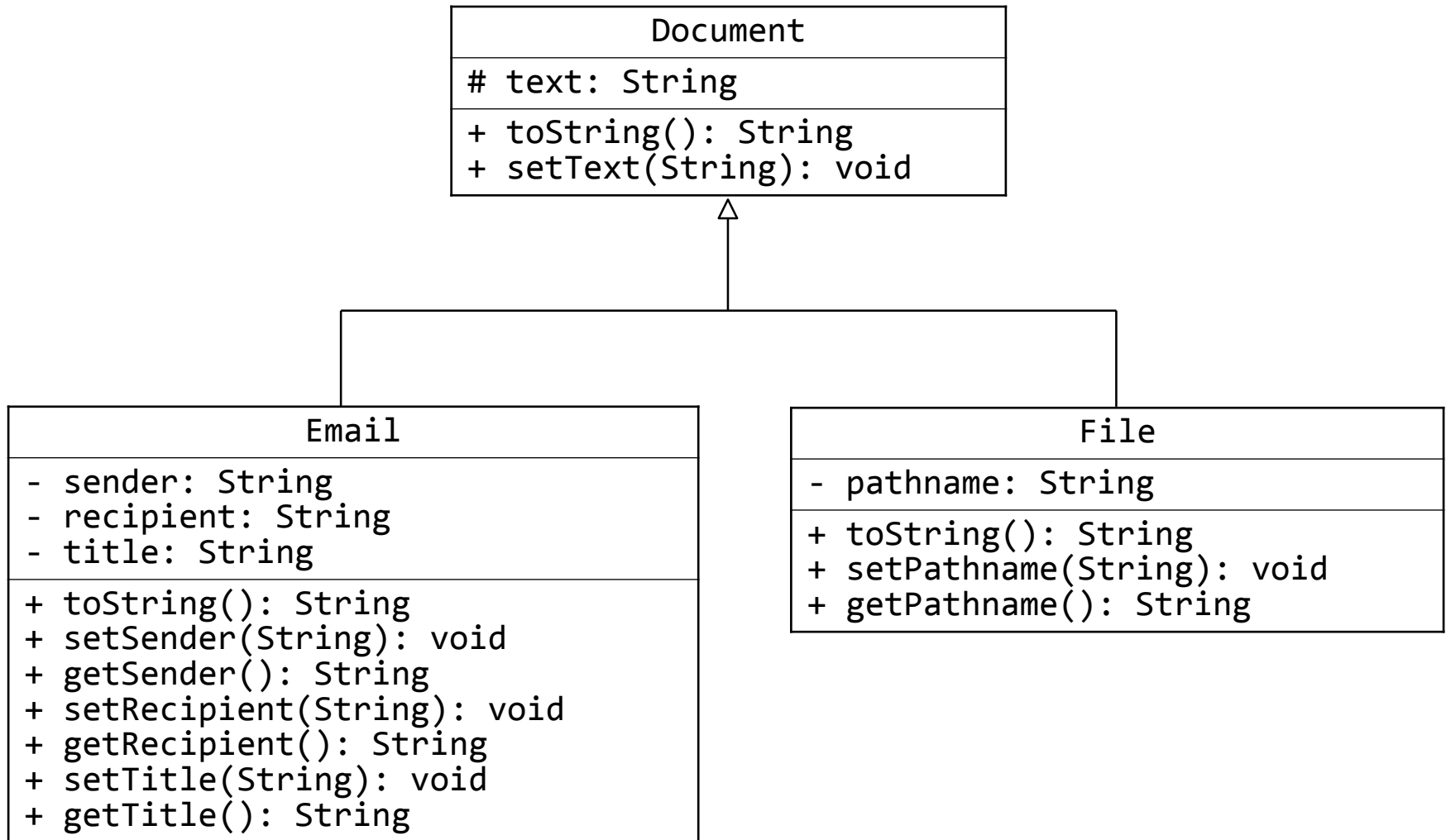
Email
- sender: String - recipient: String - title: String
+ toString(): String + setSender(String): void + getSender(): String ...

- Similarly, define a class for `File` that is derived from `Document` and includes an instance variable for the `pathname`. The textual contents of the file should be stored in the inherited variable `text`.
- Implement appropriate accessor and mutator methods. Redefine the `toString` method to concatenate all text fields.

File
- <code>pathname: String</code>
+ <code>toString(): String</code> + <code>setPathname(String): void</code> + <code>getPathname(): String</code>

Class Design

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Text Format

- `Document.toString()`

`text`

- `Email.toString()`

`From: sender`

`To: recipient`

`Title: title`

`text`

- `File.toString()`

`Path: pathname`

`text`

Problem Description

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- Write a program to print some information about a document according to the execution mode.
- The program input is given from keyboard
 - Input 1: The execution mode (A, B or C)
 - Input 2: The document type (Document, Email or File)
- For type Document:
 - Input 3: document content
- For type Email:
 - Input 3: sender
 - Input 4: recipient
 - Input 5: title
 - Input 6: email body
- For type File:
 - Input 3: path to the file
 - Input 4: file content

- For execution mode A, you should use the `toString()` method to print the text content of the document.
- For execution mode B, enter a keyword that follows the last keyboard input. You should print whether or not the text content contains the keyword.
- For execution mode C, enter the name of an instance variable and the new value of the variable. You should update the value of the variable and print the updated text content.
 - For type `Document`, the variable name must be "text"
 - For type `Email`, the variable name must be "text", "sender", "recipient" or "title"
 - For type `File`, the variable name must be "text" or "pathname"

Sample Input and Output

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Input 1	A
Input 2	Email
Input 3	Red
Input 4	Green
Input 5	Pokemon
Input 6	Let's fight!
Output	From: Red To: Green Title: Pokemon Let's fight!

Sample Input and Output

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Input 1	B
Input 2	Document
Input 3	ReLIFE is an ongoing Japanese web manga series.
Input 4	Rebirth
Output	false

Sample Input and Output

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Input 1	C
Input 2	File
Input 3	D:\java\mid_exam.docx
Input 4	YOU CANNOT PASS!!!
Input 5	pathname
Input 6	D:\java\final_exam.txt
Output	Path: D:\java\final_exam.txt YOU CANNOT PASS!!!

Scoring Criteria

- Correctness: 80%
 - Note that TA will test your program with more than one test case.
- Coding standards: 20%
- Plagiarism is strictly forbidden

Submission

- Please archive your source code to `STUDENT_ID.zip` and upload to Moodle before deadline
- Your zip file should follow the format depicted in the document "Java Online Judge System Manual.pdf"
- Remember to test your code on *Java Online Judge System* before uploading to Moodle
- No late submission is accepted

If you have any problem about this homework,
please contact TA: 黃琪恩 (tony4794@gmail.com)