NTOU Java Programming
Exercise 2

Spring 2024

Exercise 2-1[1]

- We have a class *WikipediaScraper.java* to extract information from a Wiki page.
- First iteration (第一輪任務):
  - Please compile and execute the code correctly.
  - The expected result should be:

    Title: The Mythical Man-Month

    Author: Fred Brooks

Exercise 2-1₂

- Compile:
  - Build the package directory automatically (please use the command parameter *-d*).
  - Set the jsoup library when compiling the source code (please use the command parameter *–classpath* or *-cp*):
    - jsoup-1.17.2.jar: https://jsoup.org/packages/jsoup-1.17.2.jar
- Execute：
  - Again, set the library: *jsoup-1.17.2.jar* when executing the class file.
  - Use a fully qualified name (package name + class name) to execute the Java class correctly.

Exercise 2-1 3

- Second iteration (第二輪任務):
  - Please modify the code (replace the “Code here” block with your code) to print additional information (Publication Date and Plot Summary), as shown in ex2-1-result.txt.
  - Please compile and execute your modified code.

Exercise 2-1$_4$

- Please upload
  - The screenshot of the command history (兩階段命令列編譯和執行的歷程), including the correct *javac* and *java* commands, and the correct execution results in two iterations.
  - The modified code.

Exercise 2-2[1]

- Please design a Player class:
  - It has two private fields: *hp* and *attackPoints* (攻擊力). The type of *hp* is *long*, and the type of *attackPoints* is *int*.
  - Please provide two methods, *getHp()* and *getAttackPoints(),* to return the values of the above two fields.
  - Please design the method *setHp(long newHp)*, which can set *hp* to a new given value.
    - If the given parameter *newHp* < 0, set *hp* to 0 directly.

Exercise 2-2

- Please design the constructor of Player without parameters:
  - Set *hp* to a random number, ranging from 9,000,000,000 (共9個0) to 10,000,000,000 (共10個0)
  - Set *attackPoints* to a random number, ranging from 100,000,000 (8個0) to 200,000,000 (8個0)
- Please design Player's method, attack:

```
public void attack(Player enemy)
```

  - Its functionality is to attack the enemy: deduct the enemy's *hp* according to my *attackPoints*.
  - For example, if my attackPoints is 4,000 and the enemy's hp is 10,000, then the enemy's *hp* will become 6,000 after the attack.

Exercise 2-2$_3$

- Please note that this exercise can only use the *nextFloat()* method of *java.util.Random* to generate random numbers.
  - Other APIs of generating random numbers are forbidden.
- Please refer to the documentation of nextFloat():
  - https://docs.oracle.com/en/java/javase/17/docs/api/java.base/java/util/Random.html

Exercise 2-2$_4$

- The expected functionality of Game.java is to allow two players to fight against each other.
  - The two players take turns to attack each other, and the *hp* value will be reduced according to the enemy's *attackPoints*.
- Please also modify Game.java (which calls your written Player.java), replace the "//Code here" block with the correct program that can achieve the above requirements
  - Creating objects, determining victory and leaving the loop, and displaying all numbers with thousands commas (千位逗點).

Exercise 2-2: Expected Results

- Please refer to ex2-2-result-1.txt and ex2-2-result-2.txt

Exercise 2: Submission

- The naming should conform to the **CamelCase** style.
- "Package" is required: ntou.cs.java2024.
- Please submit files including the snapshot file(s), .java files and .class files (upload them to TronClass).
- Code that fails to compile or execute is not accepted.