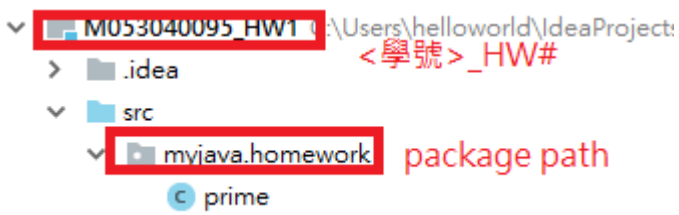
【2018 JAVA 物件導向程式設計 Homework 1】

- 注意事項

1. 請使用 JAVA 語言，配合 IntelliJ IDEA 寫本次作業並進行測試，並安裝、使用 JAVA SE Development Kit (JDK) 8 函式庫。
2. 請依據作業規定設定 IntelliJ IDEA 專案名稱與 package name，若未依照規定將根據狀況扣分。
3. 嚴禁抄襲其他同學作業，參與者 (抄襲與被抄襲) 該次作業均以零分計算。
4. 請對你的程式碼有深入瞭解，demo 時助教會問。
5. 對題目有問題可以寄信問助教群(java_ta@net.nsysu.edu.tw)或是到實驗室(EC5018)詢問，但不幫忙 debug。
6. 逾期以零分計算，不接受補交，有任何因素導致無法如期繳交，請事先告知；Demo 時間會另外通知。

- 作業規定與上傳

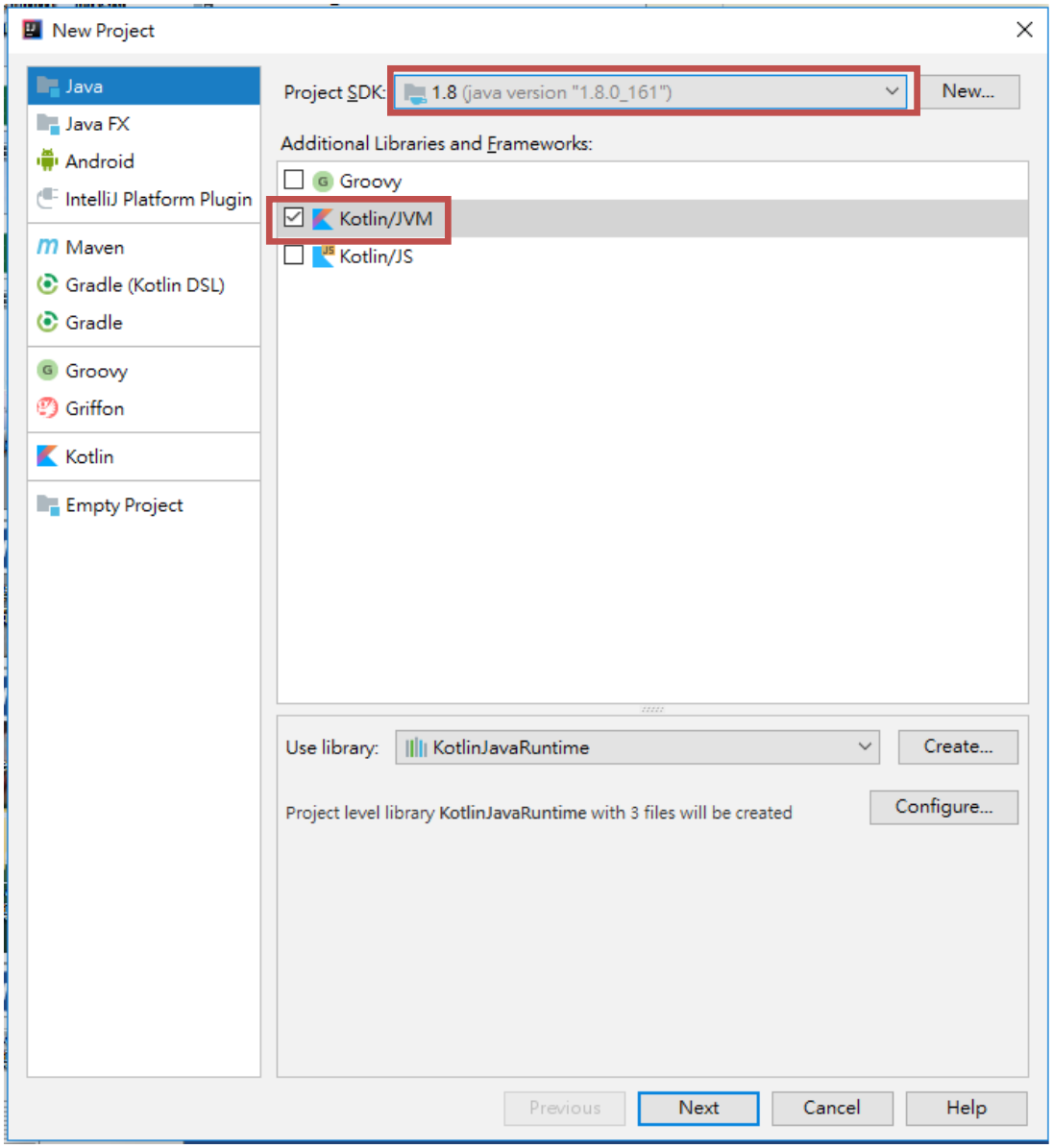
1. IntelliJ IDEA 專案名稱：<學號>_HW1
2. Package path：myjava.homework
3. 作業請繳交專案之 tar 或 zip archive 並上傳至網路大學。請於 2018 年 3 月 12 日 (週一) 23:59 前上傳完畢，逾期以零分計算，不接受補交，再次強調，有任何因素導致無法如期繳交，請事先告知，Demo 時間會另外通知。
4. Example of package explorer (請根據作業規定修改)：



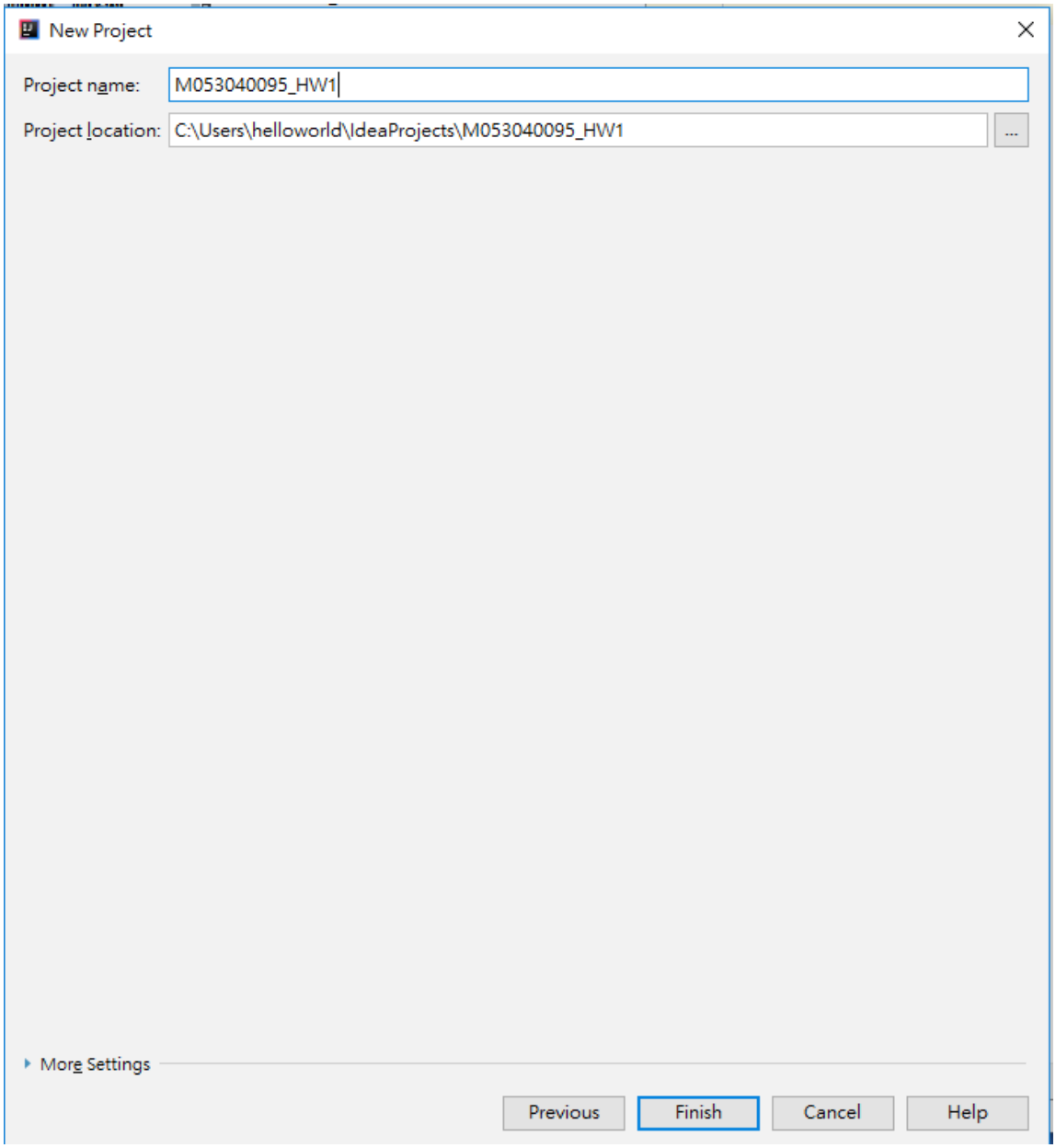
- IntelliJ IDEA 設定範例：

  1. 開新專案：

     File → New → Project,　Project SDK 記得設定 JavaSE-1.8，Next。

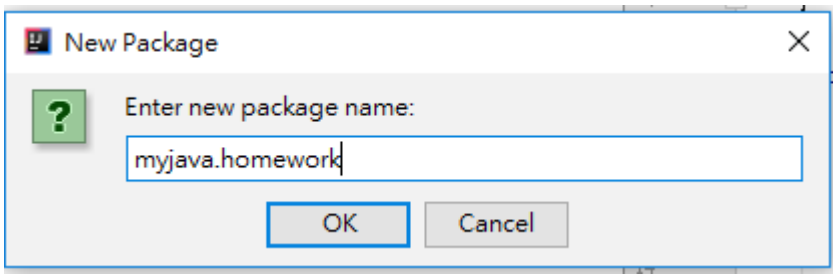


Project name 輸入你的學號與作業編號， Finish。



2. 建立 package：

   在專案中的 src 資料夾點右鍵 → New → Package， 並把你本次作業的所有 code 與 data 全都放置在該 package 中。



3. 專案輸出：

   在專案上按右鍵 → Show in Explorer，將整個資料夾壓縮，格式 tar 或 zip 皆可。作業上傳至網路大學時，就上傳該 tar 或 zip 檔即可。

- Homework

There are two parts in this homework. The first one is to check whether the number is prime number or not. The other one is to give one number, called n, and print all the prime numbers between 2 to n.

If you want to check a prime number N, you don't need to check if the number is divided by 2 ~ N-1. Actually, you only need to check if the number is divided by 2 ~ √(N-1). You can use Java.lang.Math.sqrt static function to achieve square root (開根號) and Java.lang.Math.floor static function to achieve round down (無條件捨去小數). You can use two of these functions to finish the program.

Check whether the number is prime number:

```
1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
1
Input the number :
1
Input error : N must equal greater than 2
1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
1
Input the number :
2
2 is a prime
1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
1
Input the number :
4
4 is not a prime
```

Find prime number:

First, ask user to input a number. If the number is less than two, program has to alarm user and ask user to input again until get correct number:

```
1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
2
Input the number :
0
Input error : N must equal greater than 2

1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
2
Input the number :
-5
Input error : N must equal greater than 2
```

Then, show the prime numbers to the console. You have to print ten values on each line feed and use tab to align.

```
1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
2
Input the number :
100
Show the prime numbers(2 ~ 100)
2       3       5       7       11      13      17
31      37      41      43      47      53      59
73      79      83      89      97
1.Check whether it's prime number
2.Find prime numbers(2~N)
3.Leave
3
Bye!!!
```