# **Task 1**

**Requirements:**

Please implement a method that can fetch and return the temperature of one certain county in China. Here are the specific features:

* Feature 1: The method signature is `public Optional<Integer> getTemperature(String province, String city, String county)`.
* Feature 2: If the location is invalid, return reasonable value.
* Feature 3: Add reasonable retry mechanism, cause there might be connection exception when calling the weather API.
* Feature 4: The method need block invocation if the TPS(transactions per second) is more than 100.

Here is the APIs flow that shows how to get the temperature of ‘苏州’：

* Get the province code of China
  + <http://www.weather.com.cn/data/city3jdata/china.html>
* Get the city code of one certain province
  + <http://www.weather.com.cn/data/city3jdata/provshi/10119.html>
  + ‘10119’ is ‘province code’
* Get the county code of one certain city
  + <http://www.weather.com.cn/data/city3jdata/station/1011904.html>
  + ‘1011904’ is ‘province code + city code’
* Get the weather of one certain county
  + <http://www.weather.com.cn/data/sk/101190401.html>
  + ‘101190401’ is ‘province code + city code + county code.’

**Accepted Criteria:**

* JDK 1.8+ Project (Stream API is required)
* Build with Maven.
* Cover all above function requirements.
* Unit Test (Including both **Boundary tests** and **Exception tests**. Success with Junit Assertations.)