| ITCS 209 Object Oriented Programming | Name: | Lab Score | Challenge Bonus | Peer Bonus |
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| | ID: | | | |
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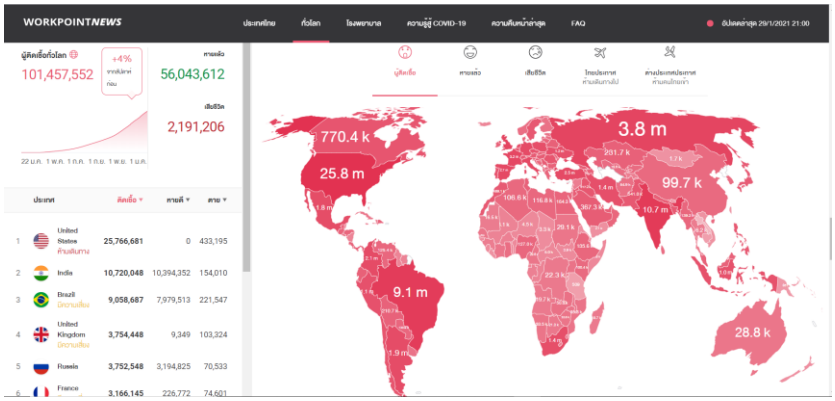
## Lab03: Classes, Objects, Methods

**Objectives:**

- Student can create classes, constructor method, setter/getter methods, and main method.
- Student can instantiate objects of the specified class.
- Student can write a statement to call methods.

In this lab, you will be implementing a Java program to store and retrieve COVID-19 data of the following website (only important information). The important are provided in the Class diagram `CovidProfile`.




Ref: https://covid19.workpointnews.com/

| CovidProfile |
|---|
| - date: String<br>- location: String<br>- accumulatedCases: int<br>- curedCases: int<br>- deathCases: int |
| + CovidProfile(String _date, String loc, int noACC, int noCured, int noDeath)<br>+ getLocation(): String<br>+ getAccCases(): int<br>+ getCuredCases(): int<br>+ getDeathCases(): int<br>+ setLocation(String loc): void<br>+ setAccCases (int value): void<br>+ setCuredCases (int value): void<br>+ setDeathCases (int value): void<br>+ printCovidInfo(): void |

**Task 1:** Create a *class* **`CovidProfile`** (CovidProfile.java) to store the following attributes (or instance fields):

- `String date`: date and time of the data e.g., "2020-01-18"
- `String location`: location where the data are collected e.g., "Thailand"
- `int accumulatedCases`: the number of accumulate infected patient e.g., 17023
- `int curedCases`: the number of cured cases e.g., 11396
- `int deathCases`: the number of death patient e.g., 76

Please make sure that these attributes cannot be accessed directly by other classes.

**Task 2:** Implement 2 ***Constructor*** *methods as follows:*

`public CovidProfile()` This method set default value as: "none", "none", 0, 0, 0.

`public CovidProfile(String _date, String loc, int noACC, int noCured, int noDeath)` This method takes values via input parameters, and assign them to each attribute of this class.

**Task3:** Implement *setter* and *getter methods* to store and retrieve **each** of those variables. For example, **`setLocation(int value)`** method is used for setting Location of the COVID-19 information, and **`getLocation()`** method is used for getting country Location of retrieving the COVID-19 information.

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**Task 4**: Implement a method `printCovidInfo()` to print all information in the following format

```
THAILAND at 2021-01-29
Accumulative Patient: 17023
Cured Patient: 11396
Death Case: 76
```

**Task 5**: Create a class `CovidReporter` (CovidReporter.java). This class contains the ***main*** *method*. In the main method, you have to implement the following statements:

5.1 instantiate at least two `CovidProfile` *objects* to store COVID profile of different country locations. You should access this website https://covid19.workpointnews.com/ and select locations to get the actual data.

- One object profile must create by `CovidProfile()` and set all the value using setter methods.
- One object profile must create by `CovidProfile(String _date, String loc, int noACC, int noCured, int noDeath)`

5.2 print all information of those two objects by calling `printCovidInfo()` method.

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**Challenge Bonus (Optional):**

1. In the class `CovidProfile`, use **static variable** to count number of Covidprofile that are created. Then print out that number in the main method in the class `CovidReporter`.
2. In the class `CovidProfile`, create another method named `isSevere()` that returns either true or false value. The method will return true if the `deathCase` value is larger than 10,000.
3. Create another (useful) method of your own.

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