#1 PHP

Description

Please write a class which does calculate statistics on the dataset stored in a `.csv` file with the following structure:

```
Name;Gender;Age;Region;Score
```

where

- Name is a string
- Gender is a string
- Age is an integer within a range [0,100]
- Region is a string
- Score is an integer within a range [-100,100]

This class must implement the following interface:

```php
<?php

interface ScoreDataIndexerInterface
{
    /**
     * Returns count of users having score withing the interval.
     *
     * @param int $rangeStart
     * @param int $rangeEnd
     * @return int
     */
    public function getCountOfUsersWithinScoreRange(
        int $rangeStart,
        int $rangeEnd
    ): int;

    /**
     * Returns count of users meet input condition.
     *
     * @param string $region
     * @param string $gender
     * @param bool $hasLegalAge
     * @param bool $hasPositiveScore
     * @return int
     */
    public function getCountOfUsersByCondition(
        string $region,
        string $gender,
        bool $hasLegalAge,
        bool $hasPositiveScore
    ): int;
}
```

Example

Assume that we have a `.csv` file with the following content:

```
Name;Gender;Age;Region;Score
Jaqueline;w;21;CA;20
Erin;w;37;NY;80
Theresa;w;15;CA:-40
Steven;m;23;CA:50
Larry;m;41;NY;43
```

Data output:

```
$index = new ...();
$index->getCountOfUsersWithinScoreRange(20, 50); // 3
$index->getCountOfUsersWithinScoreRange(-40, 0); // 1
$index->getCountOfUsersWithinScoreRange(0, 80); // 4

$index->getCountOfUsersByCondition('CA', 'w', false, false); // 1
$index->getCountOfUsersByCondition('CA', 'w', false, true); // 0
$index->getCountOfUsersByCondition('CA', 'w', true, true); // 1
```

Function Description

You need to write a class implementing the interface and cover it with unit-tests. Assumed that methods `getCountOfUsersWithinScoreRange` and `getCountOfUsersByCondition` will be called thouthands of times per each dataset so realization should be effective.

#2 Database

Given the database with the following tables;

```
CREATE TABLE `branch` (
    id      int,
    country varchar(2),
    state   varchar(2)
);

CREATE TABLE `loan` (
    id        text,
    branch_id int,
    value     float,
    is_active int
);
```

Please write an SQL statement to fetch the following data: `Country, State, Average value of active loans`