Exercise 2 (10 points)

- The first lines of all source files must be comment containing your name & ID
- Put all files (source, input, output) in folder Ex2_xxx where xxx = your full ID. That is, your source files must be in package Ex2_xxx and input/output files (if there is any) must be read from/write to this folder
- Zip Ex2_xxx & submits it to Google Classroom. Email submission is not accepted

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1. Get city size in square km from user.

2. Read province names and areas in square km from input file. For each province:
   2.1 Calculate its size in square mile -> 1 square km = 0.386102 square mile
   2.2 Calculate its size ratio to the input city. For better precision, the ratio should be calculated by using square km units

3. Write the output to another file in the following format:
   3.1 Size in square km must be right aligned. Use comma for thousands separator.
   3.2 Size in square mile must be printed in 2 decimal places, right aligned. Also use comma for thousands separator
   3.3 Ratio must be printed in 2 decimal places, right aligned.
   3.4 All columns must be properly aligned. You'll get point deduction for messy output.

4. The output file must be placed in the same folder as the input file

Note

- Use %s, %f, %d formatting instead of \t to avoid messy spacing
- When printing the output to file, use **\r\n** instead of \n

provinces

File Edit View

```
Bangkok        1564
Buriram       10080
Chaiyaphum    12698
Chonburi       4508
Lampang       12488
Lopburi        6493
Kanchanaburi  19385
Nonthaburi      637
Phetchabun    12340
Phitsanulok   10589
Phuket          574
Ranong         3666
Sisaket        8936
Trang          4726
Yala           4476
```

```
--- exec-maven-plugin:3.0.0:exec (default-cli) @ solutions ---
Enter the size of your city in square km =
1564
Read province size from src/main/java/Ex2/provinces.txt
Write output src/main/java/Ex2/output.txt
------------------------------------------------------------
BUILD SUCCESS
------------------------------------------------------------
```

output

File Edit View The first line is added to verify the calculation

Province	Square km	Square mile	ratio to your city
Your city	1,564	603.86	1.00
Bangkok	1,564	603.86	1.00
Buriram	10,080	3,891.91	6.45
Chaiyaphum	12,698	4,902.72	8.12
Chonburi	4,508	1,740.55	2.88
Lampang	12,488	4,821.64	7.98
Lopburi	6,493	2,506.96	4.15
Kanchanaburi	19,385	7,484.59	12.39
Nonthaburi	637	245.95	0.41
Phetchabun	12,340	4,764.50	7.89
Phitsanulok	10,589	4,088.43	6.77
Phuket	574	221.62	0.37
Ranong	3,666	1,415.45	2.34
Sisaket	8,936	3,450.21	5.71
Trang	4,726	1,824.72	3.02
Yala	4,476	1,728.19	2.86

Ln 1, Col 1 | 1,218 characters | 100% | Windows (CRLF) | UTF-8

```
--- exec-maven-plugin:3.0.0:exec (default-cli) @ solutions ---
Enter the size of your city in square km =
3666
Read province size from src/main/java/Ex2/provinces.txt
Write output src/main/java/Ex2/output.txt
------------------------------------------------------------------------
BUILD SUCCESS
------------------------------------------------------------------------
```

output

File Edit View

Province	Square km	Square mile	ratio to your city
Your city	3,666	1,415.45	1.00
Bangkok	1,564	603.86	0.43
Buriram	10,080	3,891.91	2.75
Chaiyaphum	12,698	4,902.72	3.46
Chonburi	4,508	1,740.55	1.23
Lampang	12,488	4,821.64	3.41
Lopburi	6,493	2,506.96	1.77
Kanchanaburi	19,385	7,484.59	5.29
Nonthaburi	637	245.95	0.17
Phetchabun	12,340	4,764.50	3.37
Phitsanulok	10,589	4,088.43	2.89
Phuket	574	221.62	0.16
Ranong	3,666	1,415.45	1.00
Sisaket	8,936	3,450.21	2.44
Trang	4,726	1,824.72	1.29
Yala	4,476	1,728.19	1.22

Ln 1, Col 1 | 1,218 characters | 100% | Windows (CRLF) | UTF-8