Java Object-Oriented Concepts Unit

Lesson 3 Lab 2: State Capitals 2

Copyright © 2016 The Learning House, Inc.

All rights reserved. No part of these materials may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of The Learning House. For permission requests, write to The Learning House, addressed “Attention: Permissions Coordinator,” at the address below.

The Learning House

427 S 4th Street #300

Louisville KY 40202

Lesson 3 Lab 2: State Capitals 2

Requirements

In this lab, you will write a simple program that holds all of the states and their corresponding capitals in a HashMap. This lab is similar to Lab 01, but you will create an object to hold information about the capital of each state. This object (rather than the city name string) will be the value for each state/capital pair.

Your program must have the following features:

- It will be a Java Console Application called StateCapitals2.
- It will have a class called Capital with the following properties:
    - Name
    - Population
    - Square mileage
- It will have a HashMap that holds the names of all the states and their corresponding Capital objects (State name is the key, Capital object is the value).
- Print the name, population, and square mileage for each capital along with its corresponding state name to the screen. (Hint: use the key set to get each capital object out of the map one by one and then print each field of the Capital object to the screen.)
- Print the states with capitals that have a population over a given value (this value is typed in by the user of the program) to the screen. (Hint: you will have to add code to ask the user for a minimum population. Once you have this value, go through each state/capital pair as you did for step #4, but only print the information for capitals that have a population above the limit.)

Sample Output (order may vary):

```
STATE/CAPTIAL PAIRS:
====================
Alabama - Montgomery | Pop: 205000 | Area: 156 sq mi
Alaska - Juneau | Pop: 31000 | Area: 3255 sq mi
Arizona - Phoenix | 1445000 | Area: 517 sq mi
Arkansas - Little Rock | Pop: 193000 | Area: 116 sq mi
…
…

Please enter the lower limit for capital city population:
150000

LISTING CAPITALS WITH POPULATIONS GREATER THAN 150000:

Alabama - Montgomery | Pop: 205000 | Area: 156 sq mi
Arizona - Phoenix | 1445000 | Area: 517 sq mi
Arkansas - Little Rock | Pop: 193000 | Area: 116 sq mi
```