

Screen Cast Link
<https://youtu.be/pfz02icI90Q>

Readme.md

- Factory pattern for farms
 - Requirements Fulfilled by Factory Pattern
 - A world must start with at least 1 farm
 - Farms can be of 3 different types (Hybrid, Animal, Crop)
 - Farms start with up to 6 farmers, more being hired each cycle
 - Farms only gain money after 24 hours have cycled
 - Farms gain money based their money skill
- Observer to notify different elements of each tick and how they should act accordingly
 - Runs on cycles based on user input
 - Farms automatically upgrade when required currency is obtained
 - New farms are created when a farm reaches greater than 10 population
 - Notifies all farms of day or night rotation, leveling up, gaining farmers, and increasing gold.
- Strategy Pattern to define the Barn and Crops
 - Crops are harvested every 3 days
 - Predators come out at night and kill animals or crops at a 10% chance
 - Animals breed every 4 cycles if there are two and they aren't killed
 - 10% of money is saved and either spent on animals or crops depending on the farm

Travis.CI Screenshot

✓ master Adds test reports to git


~ #37 passed


 Restart build

Commit 53ff55a 

 Ran for 1 min 18 sec


 Debug build

Compare bbbde97..53ff55a 

 6 minutes ago

Branch master 



 Kelly

 JDK: oraclejdk11 Java

 AMD64

[Job log](#)

[View config](#)

 Remove log
  Raw log

```

Using custom target: /home/travis/oraclejdk11
1  Worker information
6
79 Build system information
80 Build language: java
81 Build dist: xenial
82 Build id: 161909485
83 Job id: 323178211
84 Runtime kernel version: 4.15.0-1055-gcp
85 travis-build version: 99f83c6b
86 Build image provisioning date and time
87 Tue Feb 18 10:44:28 UTC 2020
88 Operating System Details
89 Distributor ID: Ubuntu
90 Description: Ubuntu 16.04.6 LTS
91 Release: 16.04
92 Codename: xenial
93 Systemd Version
94 systemd 229
95 Cookbooks Version
96 9a55ad7 https://github.com/travis-ci/travis-cookbooks/tree/9a55ad7
97 git version
98 git version 2.25.0
99 bash version
100 GNU bash, version 4.3.48(1)-release (x86_64-pc-linux-gnu)
101 gcc version
102 gcc (Ubuntu 5.4.0-6ubuntu1-16.04.12) 5.4.0 20160609
103 docker version
104 Client:
105 Version: 18.06.0-ce
106 API version: 1.38
107 Go version: go1.10.3
108 Git commit: 0ffa825
109 Built: Wed Jul 18 19:11:02 2018
110 OS/Arch: linux/amd64
111 Experimental: false
112
113 Server:
114 Engine:
115 Version: 18.06.0-ce
116 API version: 1.38 (minimum version 1.12)
117 Go version: go1.10.3
  
```

worker_info 0.00s
 0.00s

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Jacoco Test Report, Spotbugs, Checkstyle, Junit Screenshots

SpotBugs Report

Project Information

Project: root project 'SER316DesignPatterns' (main)

SpotBugs version: 4.0.1

Code analyzed:

- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/BarnStrategy/Crop.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/BarnStrategy/Barn.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/BarnStrategy/Strategy.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/BarnStrategy/HybridBarn.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/FarmTest.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/TickObserver/FarmData.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/TickObserver/Subject.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/FarmFactory/AnimalFarm.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/FarmFactory/Farm.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/FarmFactory/HybridFarm.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/FarmFactory/CropFarm.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/FarmFactory/FarmFactory.class
- /Users/Kelly/Desktop/Arizona State University/SER316/Week 5/SER316DesignPatterns/build/classes/java/main/Universum.class

Metrics

591 lines of code analyzed, in 13 classes, in 4 packages.

Metric	Total	Density*
High Priority Warnings		0.00
Medium Priority Warnings		0.00
Total Warnings	0	0.00

(* Defects per Thousand lines of non-commenting source statements)

Contents

- [Details](#)

Summary

Warning Type	Number
Total	0

Warnings

Click on a warning row to see full context information.

Details

SER316DesignPatterns

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
📁 FarmFactory	<div><div></div></div>	97%	<div><div></div></div>	93%	4	45	1	173	0	15	0	4
📁 default	<div><div></div></div>	92%	<div><div></div></div>	75%	3	14	6	71	1	8	0	2
📁 BarnStrategy	<div><div></div></div>	100%	<div><div></div></div>	92%	10	84	0	192	0	15	0	3
📁 TickObserver	<div><div></div></div>	100%	<div><div></div></div>	100%	0	9	0	29	0	5	0	1
Total	39 of 2,182	98%	17 of 218	92%	17	152	7	465	1	43	0	10

Couldn't test part of main that requires input from the user.

Class FarmTest

all > default-package > FarmTest

4	0	0	1.822s
tests	failures	ignored	duration

100%
successful

Tests

Standard output

Tests

Test	Duration	Result
factoryTest	0.001s	passed
observerTest	1.799s	passed
strategyTest	0.017s	passed
testMain	0.005s	passed

Standard output

```
This is an Crop Farm
Currency is currently $358
This farms current level is 1
An upgrade currently cost $1200
There are currently 2 farmers
The maximum farmer capacity is 10
The crop skill level of this farm is 1
The money skill level of this farm is 1
This farm has existed for 0 days

This is a Crop Farm, it has crops and animals
acres of corn:1 tobacco:1 potato:1
Are there crop predators? false

This is a Hybrid Barn, it has crops and animals
Horse:167 cow:175 pig:161 chicken:211 dog:139
Are there animal predators? false
This is a Crop Farm, it has crops and animals
acres of corn:178 tobacco:179 potato:182
Are there crop predators? false

This is a Hybrid Barn, it has crops and animals
Horse:251 cow:224 pig:235 chicken:316 dog:226
acres of corn:515 tobacco:517 potato:517
Are there crop predators? false
Are there animal predators? false
main
This is an Animal Farm
Currency is currently $28
This farms current level is 1
An upgrade currently cost $1200
There are currently 0 farmers
The maximum farmer capacity is 10
The herd skill level of this farm is 1
The money skill level of this farm is 1
This farm has existed for 0 days

This is a Hybrid Barn, it has crops and animals
Horse:1 cow:1 pig:1 chicken:1 dog:1
Are there animal predators? false
Would you like to tick another day/night? If yes, enter 'Y', else enter 'N'

Farm 0
This is an Crop Farm
Currency is currently $212
This farms current level is 1
An upgrade currently cost $1200
There are currently 2 farmers
The maximum farmer capacity is 10
The crop skill level of this farm is 2
The money skill level of this farm is 2
This farm has existed for 0 days
```

▼ ✓ FarmTest	1 s 358 ms	Are there crop predators? false
✓ factoryTest	0 ms	Are there animal predators? false
✓ observerTest	1 s 344 ms	Farm 48 Became full. Creating new farm
✓ strategyTest	4 ms	
✓ testMain	10 ms	
		Farm 48
		This is an Animal Farm
		Currency is currently \$261
		This farms current level is 3
		An upgrade currently cost \$1200
		There are currently 10 farmers
		The maximum farmer capacity is 10
		The herd skill level of this farm is 10
		The money skill level of this farm is 15
		This farm has existed for 11 days
		This is a Hybrid Barn, it has crops and animals
		Horse:1 cow:-1 pig:24 chicken:40 dog:0
		Are there animal predators? false
		Farm 49 Became full. Creating new farm
		Farm 49
		This is an Animal Farm
		Currency is currently \$322
		This farms current level is 2
		An upgrade currently cost \$1200
		There are currently 10 farmers
		The maximum farmer capacity is 10
		The herd skill level of this farm is 12