

Aconex – Vanity Phone Number App

Why 1 800 Code Challenge

I found vanity phone numbers to be less complicated, less time consuming, and still giving me the ability to showcase my programming skills. The vehicle survey took me some time to design the data structure to be generic such that analytics and reporting becomes easy, but the time consumption on this was more, and I preferred to submit the coding challenge as early as possible (within next 12 hours), so I opted for 1 800 code challenge.

Design & Approach

- Designed of the dictionary data structure to support quick fetching.
- Dictionary data structure supports flexible word length.
- Recursive logic for handling special case
- Maven for packaging
- No thirdparty libraries dependencies during runtime.
- Kept the number of lines in each method to minimal, and modularized code
- Added sufficient documents as java docs and in-line.
- Core unit test cases for quick validation of the application during packaging.
- 10 hours of effort on this task. (Design, coding, refactoring, testing, documentation)
- Dictionary text file obtained from internet for better testing.
- Handles all use cases as defined in the requirements.
- Sufficient validations, error handling and error messages.

Source Code URL

<https://github.com/dvgj/aconex.git>

Maven Packaging output

```
C:\Users\James David\Documents\GitHub\aconex\vanity>mvn package
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building vanity 1
[INFO] -----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ vanity ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\James David\Documents\GitHub\aconex\vanity\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:2.5.1:compile (default-compile) @ vanity ---
[INFO] Nothing to compile - all classes are up to date
```

```
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @
vanity ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\James
David\Documents\GitHub\aconex\vanity\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:2.5.1:testCompile (default-testCompile) @ vanity
---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ vanity ---
[INFO] Surefire report directory: C:\Users\James
David\Documents\GitHub\aconex\vanity\target\surefire-reports
```

TESTS

```
Running com.aconex.vanity.AppTest
Default system dictionary loaded
Default system dictionary loaded
Default system dictionary loaded
Default system dictionary loaded
Default system dictionary loaded
Default system dictionary loaded
Default system dictionary loaded
Tests run: 6, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 3.383 sec
```

Results :

Tests run: 6, Failures: 0, Errors: 0, Skipped: 0

```
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ vanity ---
[INFO] Building jar: C:\Users\James
David\Documents\GitHub\aconex\vanity\target\vanity-1.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 7.170 s
[INFO] Finished at: 2014-09-04T05:48:44+10:00
[INFO] Final Memory: 8M/246M
[INFO] -----
```

Read phone numbers from console, execution command

```
C:\Users\James David\Documents\GitHub\aconex\vanity>java -cp target\vanity-1.jar -Ddictionary=src\main\java\dictionary.txt com.aconex.vanity.App
Usage : App [phonenumbers file name] [-Ddictionary=dictionary file name]
Dictionary loaded from path : src\main\java\dictionary.txt
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
226639
ACONEX
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
52637
JAMES
LANDS
LANES
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
226639.52637
ACONEX - JAMES
ACONEX - LANDS
ACONEX - LANES
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
```

Read phone numbers from file, execution command

```
C:\Users\James David\Documents\GitHub\aconex\vanity>java -cp target\vanity-1.jar -Ddictionary=src\main\java\dictionary.txt com.aconex.vanity.App
src\main\java\phonenumbers.txt
Usage : App [phonenumbers file name] [-Ddictionary=dictionary file name]
Dictionary loaded from path : src\main\java\dictionary.txt
226639
ACONEX
52637
JAMES
LANDS
LANES
966
WON
WOO
YON
ZOO
152637
1 JAMES
1 LANDS
1 LANES
```

Loading default system dictionary from jar

```
C:\Users\James David\Documents\GitHub\aconex\vanity>java -cp target\vanity-1.jar com.aconex.vanity.App
```

```
Usage : App [phonenumbers file name] [-Ddictionary=dictionary file name]
```

```
Default system dictionary loaded
```

```
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
```

```
52637
```

```
JAMES
```

```
LANDS
```

```
LANES
```

```
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
```

```
226639
```

```
ACONEX
```

```
Please enter the phone number to display possible vanity names. (Type 'exit' to quit)
```

```
exit
```

```
C:\Users\James David\Documents\GitHub\aconex\vanity>
```

Environment

- JDK 1.7
- Eclipse Kepler
- Maven 3.2.2
- GitHub for source code
- JUnit 3.8.1 for unit testing
- Developed in Windows platform
- This document created using OpenOffice Writer