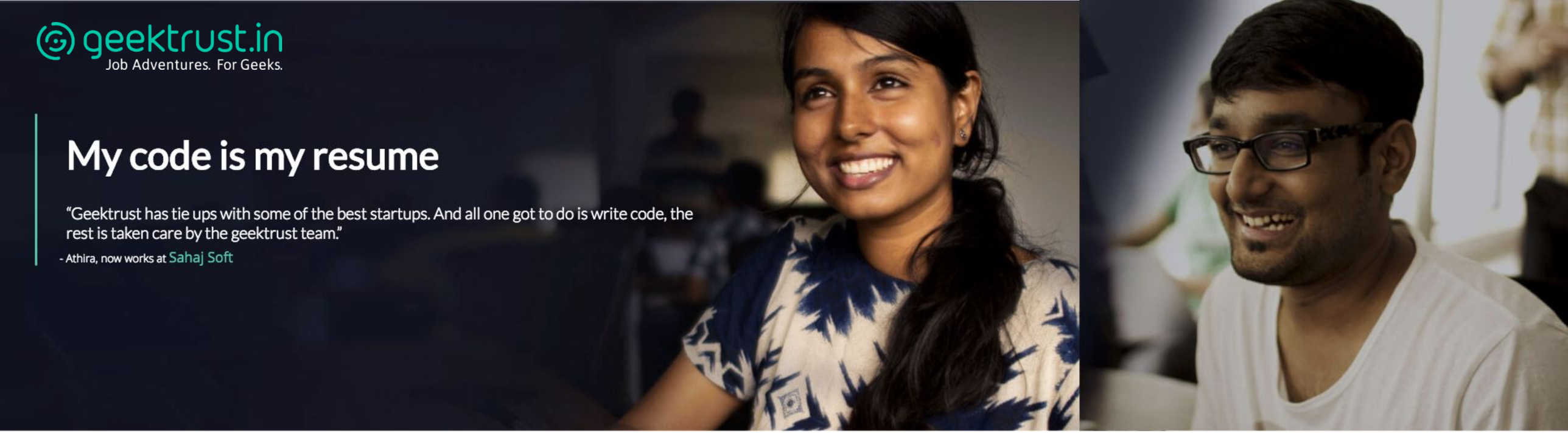

Athira (ex-Motorola), Souranil (ex-ThoughtWorks) and 200+ developers have solved Geektrust coding challenges to find great jobs over the last 4 years

- **Get priority** and be treated as a premium candidate to directly connect with decision makers at companies.
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Over 3000 developers from the best companies in the world have trusted us with their code. And we don't look just at the output, but how you get it is more important. We care about how well modelled your code is, how readable, extensible, well tested it is. Check out our coding help page to ensure you get a good score.

Getting started

1. Getting the output right is important, but more important is clean code and how well designed your code is. You should **absolutely** see our Help page post on what we look for in your code, and how to get started with the coding challenge.

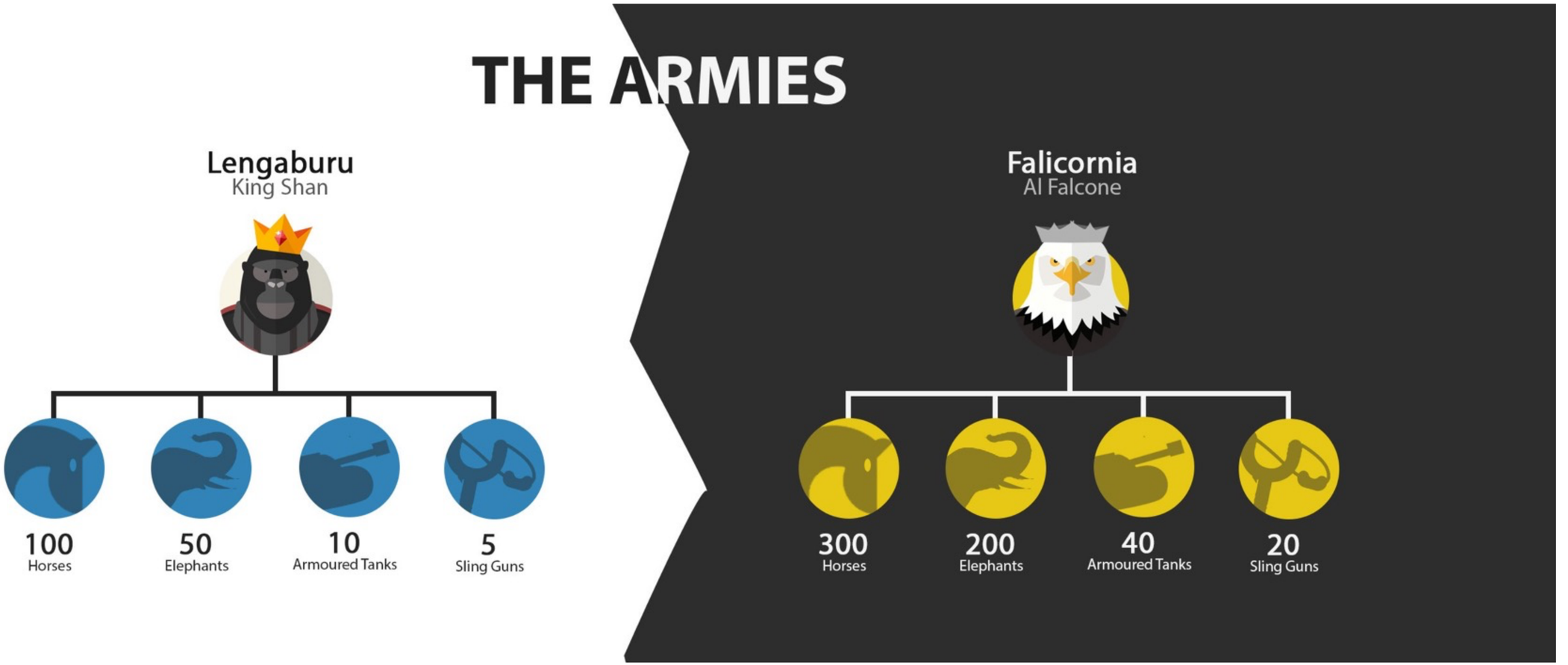
2. See our evaluation parameters here and the badges to earn here.

3. We expect a command line app. So no web apps will be considered for evaluation. You don't need data stores either.

Problem Context

Our problem is set in the planet of Lengaburu…in the distant distant galaxy of Tara B. Our protagonists are King Shan, the emperor of Lengaburu, and the evil queen Al Falcone of Falicornia

Lengaburu has been at peace with her neighbours for over 50 years but now…. planet Falicornia dares attack Lengaburu. Write code to help King Shan identify the optimal force he should deploy to defend Lengaburu



Al Falcone has a larger army than King Shan. But she cannot leave her home planet unprotected. So she will always deploy a sub set of her army. Moreover King Shan's army unit is 2X more stronger than Al Falcone's.

The two planets

If Falicornia attacks Lengaburu with 2 Horses, 2 Elephants, 2 Armoured Tanks and 2 Sling Guns, Lengaburu will win the war if King Shan matches the attack with 1 Horse, 1 Elephant, 1 Armoured Tank and 1 Sling Gun.

But not so fast! Al Falcone will surely attack with a larger army. Your coding challenge is to identify what battalions, and how many units of each battalion King Shan should deploy to match Al Falcone's attack.

See next page for Rules of war

the rules of war

Lengaburu's army has 100 Horses, 50 Elephants, 10 Armoured Tanks and 5 Sling Guns

Rule #1. The Power Rule: Each Lengaburu army unit is 2X more powerful than their Falcornia counterpart. Example: 1 Lengaburu Horse can counter 2 Falicornia Horses, 1 Lengaburu Elephant can counter 2 Falicornia Elephants and so on.

Rule #2. The Like-to-Like Rule: Falicornia Horses battalion should be countered with Lengaburu horses battalion, Elephants with elephants and so on. Except when the battalion is completely exhausted (see Rule #3).

Example: If Falicornia deploys 2 H, 4 E, 0 AT and 6 SG, Lengaburu should counter with 1 H, 2 E, 0 AT and 3 SG.

the rules of war (cont'd)

Lengaburu's army has 100 Horses, 50 Elephants, 10 Armoured Tanks and 5 Sling Guns

Rule #3. The Substitution Rule: When all units of a particular Lengaburu battalion is exhausted, an adjacent battalion can be used. 1 Elephant can replace 2 Horses (and 2 Horses can replace 1 Elephant), 1 Armoured Tank can replace 2 Elephants (and vice versa) and 1 Sling Gun can replace 2 Armoured Tanks (and vice versa). Note that only adjacent battalions can be used for substituting. Horses cannot replace Sling Guns as they are not adjacent.

Example: If Falicornia deploys 204 H, 20 E, 0 AT and 0 SG, Lengaburu should counter with 100 H, **11 E** (1 Elephant has substituted 2 Horses which got exhausted at 100)

Example: If Falicornia deploys 0 H, 0 E, 14 AT and 12 SG, Lengaburu should counter with 0 H, 0 E, 9 AT and 5 SG (2 AT has substituted for 1 SG which got exhausted at 5)

Rule #4. The Substitution Choice Rule: When there are 2 possibilities of substitution, then always a lower ranked battalion should be used (Horses is lower than Elephants, is lower than Armoured Tanks, is lower than Sling Guns)

Example: If Falicornia deploys 50 H, 104 E, 6 AT and 2 SG, Lengaburu should counter with 29 H, 50 E, 3 AT and 1 SG (4 Horses substituted for 2 Elephants instead of the higher ranked Armoured Tanks)

Sample input & output

Your program should take the location to the test file as parameter. Input needs to be read from a text file, and output should be printed to the console.

Input Format

```
FALICORNIA_ATTACK 100H 101E 20AT 5SG
```

H indicates the Horse battalion units,
E indicates the Elephant battalion units,
AT indicates the Armoured Tank units,
SG indicates the Sling Gun units
of the Falicornia Army

Output Format

```
WINS 52H 50E 10AT 3SG
```

WINS or LOSES indicate whether Lengaburu Army won the battle or not against Falicornia.

H indicates the Horse battalion units,
E indicates the Elephant battalion units,
AT indicates the Armoured Tank units,
SG indicates the Sling Gun units
deployed by Lengaburu Army.

More sample input output scenarios.

Please stick to the Sample input output format as shown. This is very important as we are automating the correctness of the solution to give you a faster evaluation. You can find some sample input output files here.

Sample Input 1

```
FALICORNIA_ATTACK 100H 101E 20AT 5SG
```

Sample Output 1

```
WINS 52H 50E 10AT 3SG
```

Sample Input 2

```
FALICORNIA_ATTACK 150H 96E 26AT 8SG
```

Sample Output 2

```
WINS 75H 50E 10AT 5SG
```

Sample Input 3

```
FALICORNIA_ATTACK 250H 50E 20AT 15SG
```

Sample Output 3

```
LOSES 100H 38E 10AT 5SG
```

Node - Instructions to Build & Execute

We execute NodeJS projects using Yarn/NPM execution environment. For Standalone Javascript we use Node execution environment. In all cases your **main file** should be named as **geektrust.js**.

Solution with build file

We support both **NPM** and **Yarn** build systems. Your project should have the **package.json** with all your dependencies. In that file make sure you have an entry for the start script which points to the execution of geektrust.js.

We then execute the solution by the following command. Read more.

NPM

```
npm install --silent
npm start --silent <absolute_path_to_input_file>
```

Yarn

```
yarn install --silent
yarn run --silent start <absolute_path_to_input_file>
```

Solution without build file

For a solution without build system, we want you to name your **main** file as **geektrust.js**. This is the file that will contain your main method. We then execute the solution by the following command. Read more.

```
node geektrust.js
```

Supported Language & Versions

Code submissions are run against a Linux virtualized instance.

Supported language and versions are below:

Language	Supported versions	Supported Tools
C#	dotnet core 2.2, 3.1	dotnet
Go	1.12.x	Go build tool
Java	1.8, 1.11	maven, gradle
Node.js	8.16.x, 10.16.x, 12.6.x	npm, yarn
Python	3.7, 3.8	pip
Ruby	1.9.x, 2.2.x, 2.6.x	rake, bundler-rake

You can upload code in any version of Clojure, C++, Erlang, Groovy, Kotlin, PHP, Scala. We don't have automated tests for these languages yet. So your evaluation will take longer than the others.

Check list - submitting code

1. Please compress the file before upload. We accept .zip, .rar, .gz and .gzip
2. Name of the file should be the problem set name you are solving. For e.g. if you have solved Family problem, please name your file ‘Family.zip’.
3. Please upload only source files and do not include any libraries or executables or node_modules folder.
4. Usage of non-essential 3rd party libraries will affect your evaluation.
5. Add a **readme** with how to get your code working, and how to test your code.
6. Your solution will be downloaded & seen by companies you’re interested in. Hence we advise you to provide a solution that will work on any system without any code changes/manual setup.

what next?

A few good developers

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