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Job Adventures. For Geeks.

My code is my resume

"Geektrust has tie ups with some of the best startups. And all one got to do is write code, the rest is taken care by the geektrust team."
- Athira, now works at Sahaj Soft

Athira, Souranil and many more developers have solved Geektrust coding challenges to find great jobs.

✳ **Get feedback** on your coding skills. Detailed, handcrafted feedback on your code.

✳ **Get priority** and be treated as a premium candidate to directly connect with decision makers at companies.

✳ **Get membership** and win an exclusive Geektrust <u>DEVELOPER t-shirt</u> given when you write good code.

What we look for in your code - It's not just about getting output, but how you get it. We care about how well modelled your code is, how readable, extensible, well tested it is. Have questions on the challenges or our evaluation? Ping us on the Geektrust <u>Slack channel</u>.
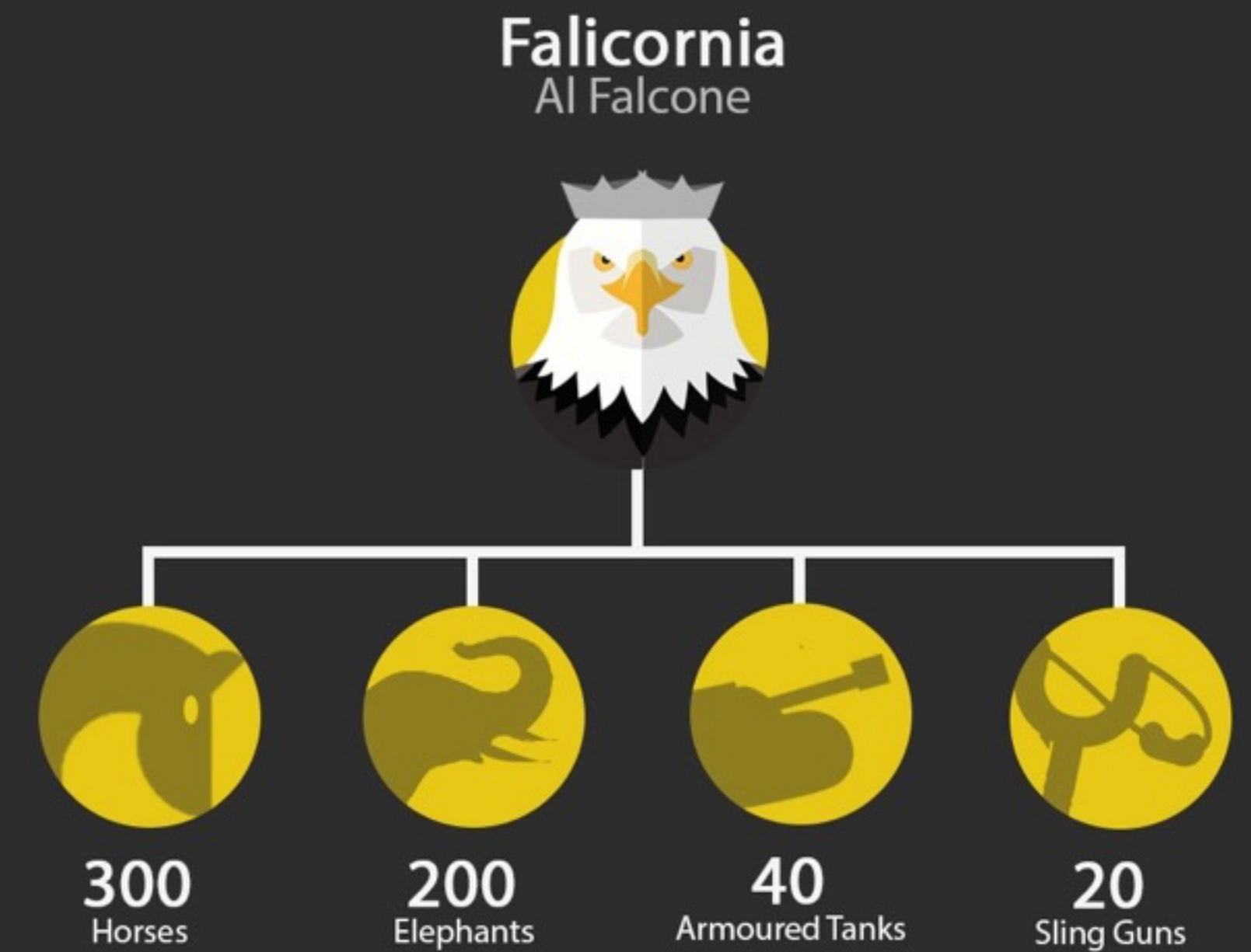
PROBLEM CONTEXT
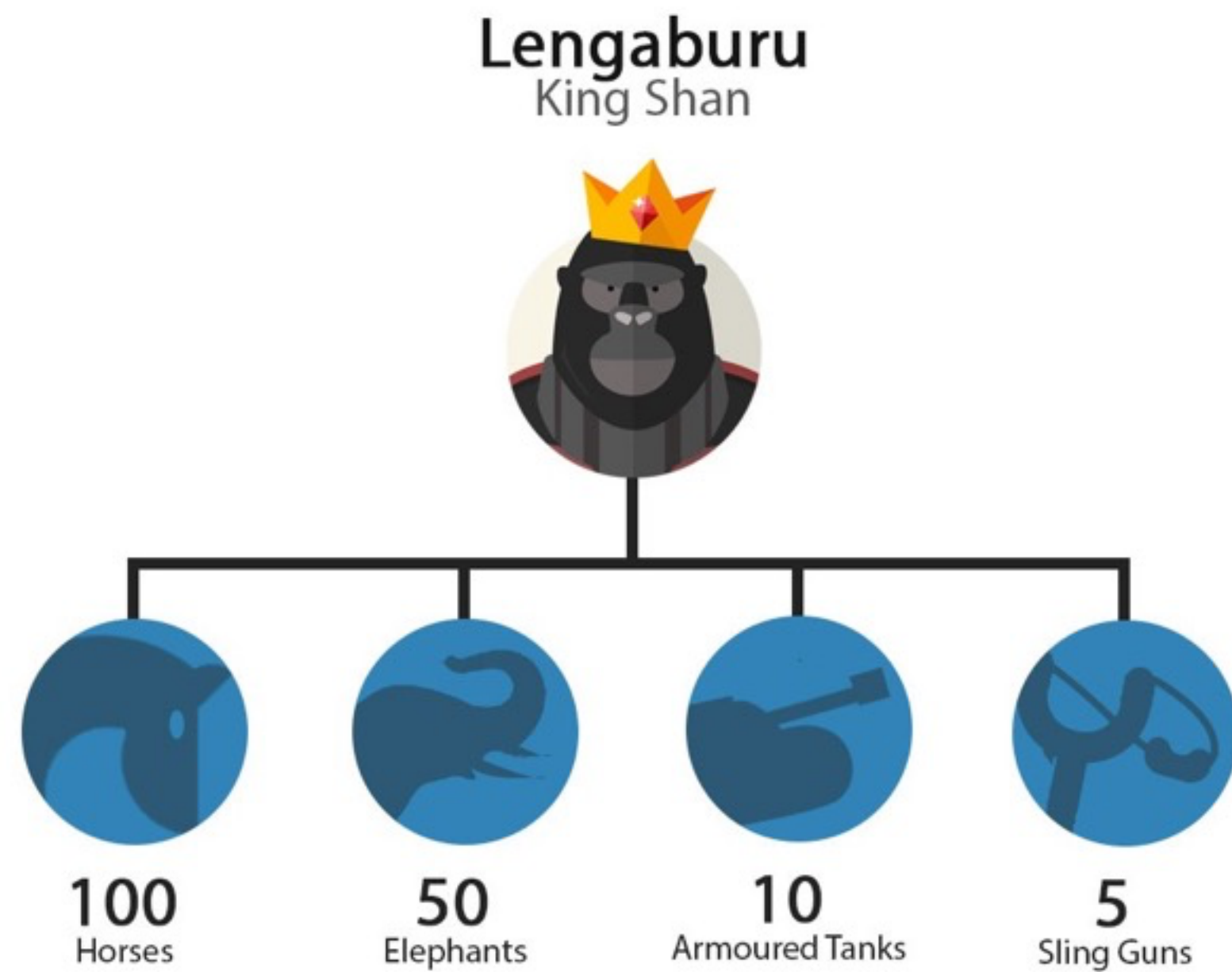
Our problem is set in the planet of Lengaburu…in the distant distant galaxy of Tara B. Our protagonists are King Shan, the emperor of Lengaburu, and the evil queen Al Falcone of Falicornia

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

THE ARMIES

Lengaburu
King Shan

100	50	10	5
Horses	Elephants	Armoured Tanks	Sling Guns

Falicornia
Al Falcone

300	200	40	20
Horses	Elephants	Armoured Tanks	Sling Guns

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.

PROBLEM 1: 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

🔁 Sample Input & Output |

Input: Falicornia attacks with 100 H, 101 E, 20 AT, 5 SG
Expected Output: Lengaburu deploys 52 H, 50 E, 10 AT, 3 SG and **wins**

🔁 Sample Input & Output ||

Input: Falicornia attacks with 150 H, 96 E, 26 AT, 8 SG
Expected Output: Lengaburu deploys 75 H, 50 E, 10 AT, 5 SG and **wins**

🔁 Sample Input & Output |||

Input: Falicornia attacks with 250 H, 50 E, 20 AT, 15 SG
Expected Output: Lengaburu deploys 100 H, 38 E, 10 AT, 5 SG and **loses**

WHAT WE LOOK FOR IN YOUR CODE

Ready for battle? But remember that it is not just about getting the right answer but how you get it. We care about how well modelled your code is, how readable, extensible it is. If another planet attacks Lengaburu from the South, will your code be able to rise up to the challenge? Or what if a new Dragon battalion enters the fray?

In cases where there is an edge case which is not mentioned in this problem statement, go-ahead and make an assumption. Just let us know what it is in a readme file.

SUBMITTING CODE

1. Please compress the file before upload. We accept .zip, .rar, .gz and .gzip

2. Name of the file should be Set2Problem1.zip

3. Upload the file in a way that makes it easy for us to get it running. This will factor into your evaluation.

4. Usage of non-essential 3rd party libraries will affect your evaluation.

5. We advise not to put your personal details in your solution as we maintain your anonymity with a company until there is genuine interest from them.

NEED HELP?

1. We know it's possible you may have more questions on the coding challenges. So we're available on our Slack chat channel for you. You can come in and ask questions and get all the support you need.

2. Just send a mail to devs@geektrust.in saying 'Add to Slack' and we'll send you an invite to join our channel, and we will help you out.

3. *You can also submit incomplete solutions if you want feedback to make sure you're going in the right direction. Just make sure to add INCOMPLETE as a prefix to the filename you're uploading e.g - INCOMPLETE-problem12.zip*
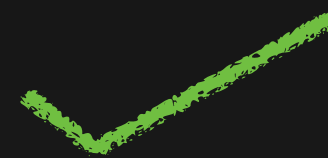
WHAT NEXT?

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companies reach out to you

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find the right job for you