

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

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Over 2000 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. Have questions on the challenges or our evaluation? Ping us on the Geektrust <u>Slack channel</u> or mail us at <u>devs@geektrust.in</u> saying "Add to slack".

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** read this post on what we look for in your code, and how to get started with the coding challenge.
- 2. See our evaluation parameters <u>here</u> and the badges to earn <u>here</u>.
- 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 story is set in the planet of Lengaburu.....in the distant, distant galaxy of Tara B. And our protagonists are King Shan, Queen Anga & their family.

King Shan is the emperor of Lengaburu and has been ruling the planet for the last 350 years (they have long lives in Lengaburu, you see!). Let's write some code to get to know the family.

This coding problem is for backend and fullstack developers.



Family Tree King Shan Queen Anga Chit Amba lsh Vich Lika Aras Chitra Satya Vyan Dritha Tritha Vritha Vila Chika Arit Jnki Ahit Satvy Krpi Atya Vyas Jaya Asva

Yodhan

Kriya

Vasa

Krithi

Laki

Lavnya

Meet The Family

Write code to model out the King Shan family tree so that:

- Given a 'name' and a 'relationship', you should output the people corresponding to the relationship in the order in which they were added to the family tree. Assume the names of the family members are unique.
- You should be able to add a child to any family in the tree through the mother.

Simple, right? But remember.. our evaluation is based not only on getting the right output, but on how you've written your code.

Relationships To Handle

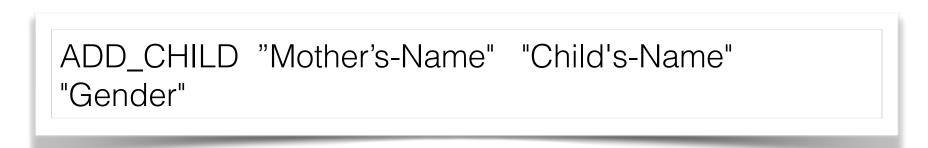
There are many relations that could exist but at a minimum, your code needs to handle these relationships.

Relationships	Paternal-Uncle	Maternal-Uncle	Paternal-Aunt	Maternal-Aunt	Sister-In-Law	Brother-In-Law	Son	Daughter	Siblings
Definition	Father's brothers	Mother's brothers	Father's sisters	Mother's sisters	Spouse's sisters,	Spouse's brothers,			
					Wives of siblings	Husbands of siblings			

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 to add a child:



Input format to find the people belonging to a relationship:

```
GET_RELATIONSHIP "Name" "Relationship"
```

Output format on finding the relationship:

```
"Name 1" "Name 2"... "Name N"
```

Example test file:

ADD_CHILD Chitra Aria Female
GET_RELATIONSHIP Lavnya Maternal-Aunt
GET_RELATIONSHIP Aria Siblings

Output on finding the relationship:

CHILD_ADDITION_SUCCEEDED
Aria
Jnki Ahit

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 <u>here</u>.



Sample 3

GET_RELATIONSHIP Vasa Siblings

GET_RELATIONSHIP Atya Sister-In-Law

Output on finding the relationship:

PERSON_NOT_FOUND
PERSON_NOT_FOUND

Pjali does not exist in the family tree

Output on finding the relationship:

CHILD_ADDITION_FAILED NONE

Asva is male, hence child addition failed

Output on finding the relationship:

Krpi Satvy

Java - Instructions to Build & Execute

Solution with build file

If you are writing code in Java with a build system, you have to use either **maven** or **gradle** with the respective build files. Please download them from the links below.

pom.xml build.gradle

Edit the build file to set your '{your.qualified.name.of.main.class}' and add your dependencies if any. Ensure the generated executable is named 'geektrust.jar'.

Post build we then execute the solution by the following command. Read more.

java -jar geektrust.jar <path_to_input_file>

Solution without build file

For a solution without build system, we want you to name your **Main** class as **Geektrust.java**. This is the file that will contain your main method. We build and run the solution by using the following commands. Read more.

javac <path_of_package>/Geektrust.java
java <package>.Geektrust <absolute_path_to_input_file>

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 2.2			
Go	1.12.x	Go build tool		
Java	1.8, 1.11	maven, gradle		
Node.js	v8.16.x, v10.16.x v12.6.x	npm, yarn		
Python	2.7, 3.7	pip		
Ruby	1.9.x, 2.2.x, 2.6.x	rake		

You can upload code in any version of Clojure, Scala, Kotlin, PHP, Erlang. 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 number 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.
- 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?

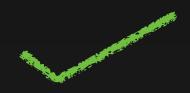
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