

Implement a REST service, using a JAVA<sup>1</sup> framework, returning a value from the **Alticci** sequence.

Optionally implement a simple JavaScript<sup>2</sup> web GUI to invoke the service.

The **Alticci** –  $a(n)$  - sequence is defined as follows:

$n=0 \Rightarrow a(0) = 0$

$n=1 \Rightarrow a(1) = 1$

$n=2 \Rightarrow a(2) = 1$

$n>2 \Rightarrow a(n) = a(n-3) + a(n-2)$

Example of the first sequence values:

0  
1  
1  
1  
2  
2  
3  
4  
5  
7  
9  
[...]

The endpoint created should be in the form `<baseurl>/alticci/{n}` where `{n}` represents the index of the sequence's value to return.

The implemented service should use a caching mechanism to take advantage of previous calculations to speed up future calculations.

The answer must include:

- Source code
- REST API documentation – Open API format (Swagger)
- Execution instructions (containers or other)

If there are any doubts regarding specific issues of the exercise that may influence its implementation, the applicant must make assumptions and implement the exercise according to them (these assumptions should be included in the answer).

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<sup>1</sup> Quarkus (<https://quarkus.io>) is suggested, but not mandatory

<sup>2</sup> Angular is suggested (<https://angular.io/>)