The ASE - Assignment Environment is an automated testing environment

- The tasks are always in the same form
    - You retrieve the task by making a GET-request on the url for the given stage
    - You send your solution via POST-request to the same url which you got the task from
    - If you try to retrieve a task which does not exist you will produce a status 404 RESOURCE_NOT_FOUND
- After sending your solution via POST-request you will get following result
    - **On correct solution**, status: **202 ACCEPTED**, message: Accepted, <link to the next task>
    - **On wrong solution**, status: **417 EXPECTATION_FAILED**, message: Expectation Failed
    - **On malformed solution**, status: **400 BAD_REQUEST**, message: <proper error message>
    - **On processing error**, status: **500 SERVER_ERROR** message: <proper error message>
    - **If using an invalid token**, status: **401 UNAUTHORIZED** message: <proper error message>
    - **If trying to access something you do not have permission yet**, status: **403 FORBIDDEN** message: <proper error message>
- For successfully completing the assignment your software has to solve all test cases automatically without errors during the test cases within 10 minutes

- Most API operations require a token.
- Such a token can be retrieved with a GET request to Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>/token`
- A token stores how much progress you already made and has an expiration duration of 10 minutes.
- When submitting a correct solution you will be provided with a new token which allows to access subsequent testcases. This new token is part of the URL of the next test case or in case all test cases are finished of the last url, which just returns a congratulatory message.
- You must solve every testcase in every stage sequentially as the token from the previous testcase is required to read the next one.
- When you submit a wrong solution, the system will remember and not issue any more tokens which state that you solved more testcases, even if you subsequently submit a correct solution to the testcase for which you submitted a wrong solution. You have to retrieve a new token. This is done in order to prevent brute force approaches.
- Retrieving a new token resets an internal random seed. Some test cases are randomized and for those you will get different test cases after retrieving a new token using the mentioned GET request.

There are 4 different API Endpoints:

- GET Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>/token`

  - Retrieves a new token, and resets randomly created test cases
- GET Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>/stage/1/testcase/<testcase>?token=<token>`
  - Retrieves a test case
- POST Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>/stage/1/testcase/<testcase>?token=<token>`
  - Submit your solution
- GET Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>/finish?token=<token>`
  - This endpoint is returned as "next" test case if everything is solved.

Description:

- · A long time ago in a galaxy far, far away portals between planets were developed.
- · The portal system should be improved and you help with generating reports.
- · Every planet may have several portals which allow one way travel to another planet.
- · The usage of every portal incurs costs. This cost value is a positive integer.
- · Every planet and every portal has an integral id.

Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>` `/stage/1/testcase/<testcase>?token=<token>`

- In stage 1 you will be given several questions that ask if there exists a way from one planet to another.
- This way may involve jumping through several portals.
- The planet x can be accessed from planet x itself without the need for a portal.
- Every question has an id and your answer has to include the same id.

Example:

```json
{
  "planets" : [{
    "id" : 0,
    "portals" : [{
      "id" : 0,
      "destinationId" : 1,
      "costs" : 42
    }]
  },{
    "id" : 1,
    "portals" : []
  }],
  "questions" : [{
    "id" : 0,
    "type" : "REACHABLE",
    "originId" : 0,
    "destinationId" : 1
  }]
}
```

This means that there are two planets, one with planet-id 0 and one portal with portal-id 0 which leads to the planet with planet-id 1 and another planet with planet-id 1 which has no portals. Using the portal with portal-id 0 costs 42.

The question with id 0 asks if starting from planet 0 the planet 1 is reachable. This is the case here because planet 0 has a portal to planet 1.

In stage 1 the type of a question will always be "REACHABLE" but in later stages the type will be needed to distinguish from other kinds of questions.

Communication Sample:

Url: `https://reset.inso.tuwien.ac.at/asetest/assignment/<yourMatrikelnr>/stage/1/testcase/<testcase>?token=<token>`

GET-request:

```
{
  "planets" : [{
    "id" : 0,
    "portals" : [{
      "id" : 0,
      "destinationId" : 1,
      "costs" : 42
    }]
  },{
    "id" : 1,
    "portals" : []
  }],
  "questions" : [{
    "id" : 0,
    "type" : "REACHABLE",
    "originId" : 0,
    "destinationId" : 1
  }]
}
```

POST-request:

```
{
  "answers": [{
    "questionId": 0,
    "reachable": true
  }]
}
```

Result:

```
{
  "message" : "Accepted",
  "linkToNextTask" : "https://reset.
    inso.tuwien.ac.at/asetest/
    assignment/<yourMatrikelnr>/
    stage/1/testcase/4?token=
    eyJhbGciOiJ..."
}
```