

# Codechef Contest Arena

How to Start this Application?

1. Go to url <http://a73d8dc1.ngrok.io>
2. Sign in with Codechef credentials.
3. You will be redirected to home page where you will have access to different contests.

## Tech Stack

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1. Javascript: Primary programming language
2. CSS: Styling web pages, HTML files
3. ReactJS: Javascript library for building User Interfaces
4. External API: Codechef

## Approach

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### OAUTH 2.0

Codechef Contest Arena is a webpage which can be used by any authorized user to participate in various contests that are conducted by Codechef. When the application loads up, the user is asked to authorize. Then a POST request is sent to the API `api.codechef.com/oauth/token` with authorization code and then AccessToken, RefreshToken are fetched which are then saved in localStorage of the browser.

codechef.com/authorize?response\_type=code&client\_id=826e992304e7df9a274d697ba5aef447&state=xyz&redirect\_uri=http://localhost:30...

CODECHEF Certified Data Structure & Algorithms Programme

EXAM DATE MAY 2020

Early Bird Ends on 31 Mar 2020

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CODECHEF An Educational Initiative

New User Login

Already have an account?

Enter your details below!

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OR

hinagupta25

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Login

Forgot Password

Password

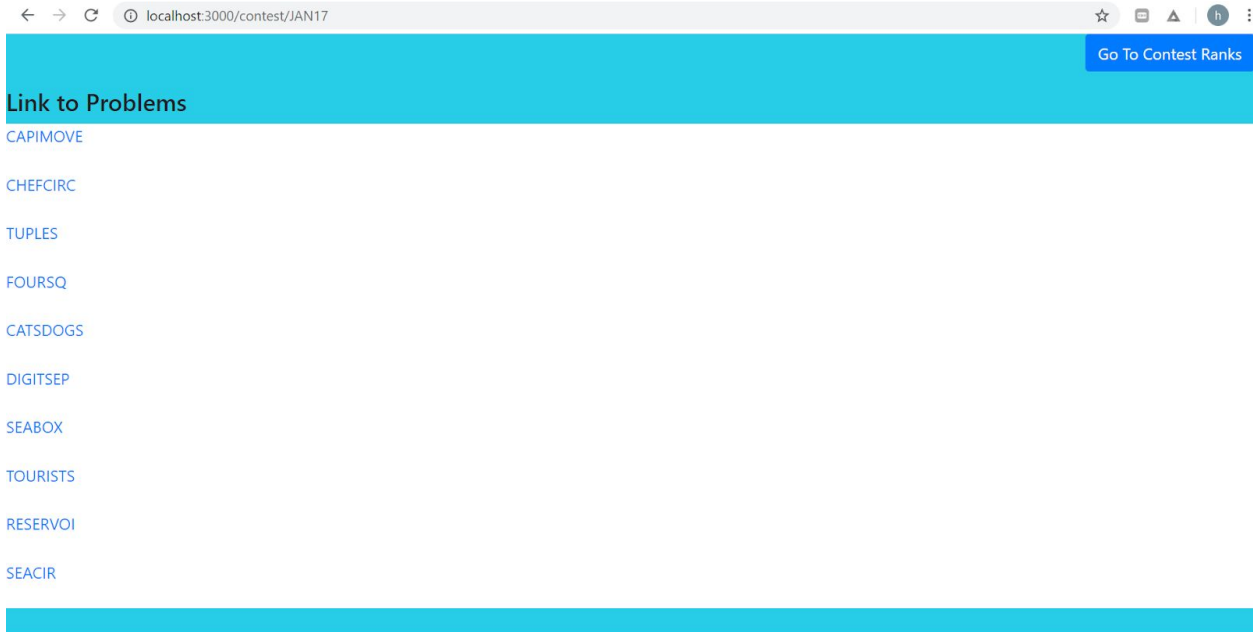
After this an AutoComplete Box is displayed which contains Contest Names and ContestCodes. When one of them is selected by the person, a GET request is sent to the API `api.codechef.com/contests/{contestCode}` and details of that contest is fetched. A clickable list of problems and Ranklist of the contest are shown.

localhost:3000/home

### Search ContestNames or contestCodes

jan

- "Encoding January'20"
- "January Lunchtime 2020 Division 2"
- "January Lunchtime 2020"
- "January Lunchtime 2020 Division 1"
- "January Cook-Off 2020 Division 2"
- "January Cook-Off 2020"
- "January Cook-Off 2020 Division 1 "
- "January Challenge 2020 Division 2"
- "JAN20B"
- "January Challenge 2020"
- "JAN20"
- "January Challenge 2020 Division 1"
- "JAN20A"
- "Encoding January'19"
- "January Lunchtime 2019 Division 2"
- "January Lunchtime 2019"
- "January Lunchtime 2019 Division 1"
- "January Cook-Off 2019 Division 2"
- "January Cook-Off 2019"
- "January Cook-Off 2019 Division 1"
- "TSEC January Codeathon"
- "January Challenge 2019 Division 2"
- .....



Further when a user selects any problem by clicking on the link a GET request is sent to the API `api.codechef.com/contests/{contestCode}/problems/{problemCode}` and complete details of the problem are fetched. And if user clicks on Go to Contest ranks then another GET request is sent to the API `api.codechef.com/rankings/{contestCode}` which will give the rank list of the users with scores.

localhost:3000/rankings/JAN17

### RankList for JAN17

Ranks	Usernames	Score
1	ceilks	1000.000
2	ccz181078	993.616
3	jobasha	993.056
4	mirosuaf	991.532
5	swm_sxt	983.009
6	jtnydv25	967.764
7	adkroxx	964.298
8	hellkitsune	963.682
9	skyfire	961.421
10	notimesea	957.673
11	chaemon	957.273

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[localhost:3000/contest/JAN17/problems/CAPIMOVE](#)

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Capital Movement

[All Submissions](#)
[My Submissions](#)

Read problems statements in [Mandarin Chinese](#), [Russian](#) and [Vietnamese](#) as well.

Chef is playing a video game. In a video game, there's a advanced civilization that has a total of  $N$  planets under control. All of those planets are connected with  $N-1$  teleports in such a way, that it's possible to travel between any two planets using those teleports.

There's a chance that some planet gets infected. In this case it takes 24 hours for civilization to find out infection and prevent it from spreading. During this time infection uses teleport one time and infect all the planets that can be achieved in one teleport jump. So, once infection is detected at planet  $V$ , scientists already know that all planets connected to  $V$  via teleport are also infected. All the necessary teleports are disabled right away and medics start working on eliminating the infection.

Each planet has population. Planets are numbered from  $1$  to  $N$  and their populations are  $P_1, P_2, \dots, P_N$ . It is known that all the  $P_i$  are distinct.

There's a capital among all those planets. The capital is known to have the biggest population.

Once infection is detected at planet  $V$ , after disabling teleports on planet  $V$  and all connected to them, government has to establish a new capital if needed in the remaining not-infected planets. So, they list all the planets that are not connected to  $V$  and are not  $V$ . Then they pick the planet with biggest population. Your task is to find the number of this planet for every possible  $V$ .

**Input**

The first line of the input contains an integer  $T$  denoting the number of test cases. The description of  $T$  test cases follows.

The first line of each test case contains one integer  $N$ .

Next line contains  $N$  space-separated integers  $P_1, P_2, \dots, P_N$  denoting the population of each planet.

Next  $N-1$  lines contain two space-separated integers each  $V$  and  $U$  denoting that there's a teleport between planet  $V$  and  $U$ .

**Output**

For each test case, output a single line containing  $N$  integers  $A_1, A_2, \dots, A_N$  separated by a space. Here  $A_k$  denotes the number of the planet picked to be new capital in case infection starts spreading from the planet  $k$ . In case infection affects all the planets output  $0$ .

**Constraints**

Further users can view submissions for the problem by clicking on the All Submissions button .A GET request will be sent to the API `api.codechef.com/submissions/?problemCode={problemCode}&contestCode={contestCode}` and a list of users with all information about submissions will be fetched.

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Submissions for CAPIMOVE

Id	Language	Username	Result	Score	Time	Memory
12600336	C++ 4.9.2	ysumit99	CTE	0	0	0
12600326	C++ 4.9.2	pushkar_2196	AC	50	0.75	5036
12600309	C++ 4.9.2	thanatoz	WA	0	0	3292
12600298	C++14	aanchal1308	WA	0	0	0
12600283	C++ 4.9.2	pushkar_2196	AC	20	0	3288
12600258	C	as7664	AC	50	0.25	11552
12600237	PYTH	phoenix108	AC	20	0.01	7752
12600220	C++ 4.9.2	pushkar_2196	AC	20	0	3288
12600196	C++14	sunayan_1996	AC	100	0.36	5020
12600141	C++ 4.9.2	pushkar_2196	AC	20	0	3288

## Folder Structure

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## NPM packages used

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- react-html-parser

- query-string
- Browser Router,Link,Route
- PropTypes
- react-dom

I really enjoyed working on this web app. Through this project I have learnt a lot as it was my first web application.

## Author

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