



# The 2018 ICPC East Central North America Regional Programming Contest

Final Report

*November 18, 2018*

The 2018 ICPC East Central North America Regional Programming Contest (ICPC ECNA RPC) was held on Saturday, November 10, 2018. We had 135 teams from 50 colleges and universities throughout western Pennsylvania, Ohio, Michigan, eastern Ontario, and Indiana (excluding the Greater Chicago Metropolitan Area).

As it was difficult for some teams in the ECNA region to travel to a single site for the contest, the ECNA RPC was held as a distributed contest. There were four contest sites:

- University of Cincinnati in Cincinnati, Ohio (33 teams from 13 schools)
- Grand Valley State University in Allendale, Michigan (30 teams from 10 schools)
- University of Windsor in Windsor, Ontario (24 teams from 9 schools)
- Youngstown State University in Youngstown, Ohio (48 teams from 18 schools)

The ECNA RPC was successful, with only three issues of note. Some observations:

- The software environment was modeled after the specifications given for the 2018 ICPC World Finals. Only minor modifications were made to account for hardware differences and matching the C++ standard to what Kattis uses.
- We used Kattis again this year for the contest control system.
- The contest started promptly at 10am and ended at 3pm.
- The contest consisted of 10 problems with 60 teams solving at least one problem.
- The maximum number of problems solved by any team was 9.

## Issues

There were three issues of note during the contest.

### Building Access

Teams at the Grand Valley site were delayed from entering the building due to heightened security at the Grand Valley State campus. This resulted in a delay of approximately two minutes between the start of the contest and the teams beginning the contest. The contest directors and judges agreed to adjust scores for teams at Grand Valley by subtracting two minutes per correct submission. This resulted in two changes in ranking: CMICH GOLD moved from a tie for 45th place to sole possession of 45th place, and Conquering Heroes moved from a tie for 50th place into a tie for 49th place.

## Problem Set Errata

After the problem set was distributed for printing, it was discovered that an older version of the problem statement for problem J was included, which contained an upper limit of 1000 for the size of the input, rather than the newer limit of 2500. Teams were alerted prior to the start of the contest that a clarification would be sent at the start of the contest. A clarification was sent at the start of the contest alerting teams to the difference.

An error in explaining the example case for problem E was noted by a team during the contest. A clarification was sent to all teams highlighting the error and its correction.

## Problem Set Difficulty

After the contest, a complaint was lodged by a coach regarding the overall difficulty of the problem set. The complaint was echoed by eight other coaches in an email thread addressed to the judges and coaches. Part of the complaint is a general sentiment that the problem sets are geared toward the top regional teams without regard to other teams.

The judges desire to create a problem set that can both help decide the top teams in the region as well as provide a challenge to all teams without overwhelming them. To that end, the judges have three stated goals:

- Every problem is solved by at least one team
- No team solves all problems
- Every team solves at least one problem

The practical effect of these is that the problem set tends to have one or two relatively easy problems, one or two very difficult problems and a half-dozen problems of varying difficulty.

Unfortunately, the problems that the judges felt were easier turned out to be more difficult than imagined.

As happens every year, information gained from the contest and coaches' feedback will be used in crafting future problem sets.