



East Central NA Regional Contest

Official Rules

Mission

The International Collegiate Programming Contest (ICPC) provides college students with opportunities to interact with students from other universities and to sharpen and demonstrate their problem-solving, programming, and teamwork skills. The contest provides a platform for industry and academia to encourage and focus public attention on the next generation of computing professionals as they pursue excellence.

The purpose of the ICPC East Central North America Regional Programming Contest (ECNA RPC) is to bring together as many students from as many different institutions in the East Central North America region to compete in a spirit of fun.

Introduction

The ICPC is a multi-tiered competition among teams of students representing institutions of higher education. Teams first compete in *regional contests* held around the world from September to November each year. The top teams from each region in North America advance to the North American Championship, typically held the following January or February. The top teams from the NAC qualify to advance to the ICPC *World Finals*, typically held the following March to mid-April. Additional high-ranking teams may be invited to the World Finals as *wild card* teams.

Organization

The ICPC is organized according to the ICPC Policies and Procedures. For each regional contest, the Regional Contest Director (RCD) is charged with executing a regional contest in accordance with the regional rules and ICPC policies, procedures, and guidelines. Regional rules may vary to accommodate differences in educational systems and host computing facilities.

The contest rules for the ECNA RPC conform to The Rules of The ICPC Regional Contests as prescribed by the ICPC Steering Committee. In addition, the following rules and/or clarifications are specific to the ECNA RPC, as allowed under the "Organization" heading in the aforementioned document. Please read and save all rules for reference.

The ICPC ECNA RPC Steering Committee is responsible for establishing contest rules, policies, and guidelines for the ICPC ECNA RPC. The Committee is composed of the Site Directors, the Chief Judge, the Systems Manager, and the RCD. They oversee the conducting of the ICPC ECNA RPC, review The ICPC ECNA RPC Official Rules document, approve registration fees and budget, and recommend the ECNA RCD for the following year.

Team Composition and Eligibility

Each institution of higher education in the ECNA region is invited to sponsor one team or two teams to the ECNA RPC.

A representative of the sponsoring institution of higher education, typically a faculty member, must serve as or designate the team *coach*. The coach certifies the eligibility of contestants and serves as the official point-of-contact with the team prior to, during, and after contest activities. A team may only have one coach.

The coach must fully register teams in the [ICPC Registration System](#) no later than seven days prior to the contest or November 8, whichever is earlier. A team is not eligible to compete in the ECNA RPC until the ECNA RCD has accepted the team in the web registration system. Teams failing to comply with any of these requirements will be ruled ineligible to compete. Only registered reserves may be substituted for contestants. Such substitutions must be entered into the ICPC Registration System by the ECNA RCD before the contest begins.

Each team consists of three contestants who are eligible to compete in the ICPC World Finals. Please refer to the [ICPC Team Composition Rules](#) for complete eligibility requirements.

All team members must attend all contest activities as specified by the ECNA RCD. The coach is expected to attend or be available by phone during contest activities.

Students who compete in the ECNA RPC are encouraged to become student members of the ACM. However, students who compete in the World Finals are required to become student members of the ACM.

The Contest

Each team has access to one computer workstation, and is given (on paper) a set of independent problems which may be solved in any order. Each solution is a program, composed by the team at the workstation, in one of a set of available languages. The ECNA RPC will provide C/C++, Java and Python 2 and 3 compilers only.

Teams may bring books, notes, or papers for reference, but may not use any electronic or programmable devices other than the single computer workstation supplied by the ECNA RPC. Team members may communicate with each other and with contest officials but not with anyone else. Contest officials will assist teams with system problems but all questions relating to the contest problem set must be submitted to the judges via the clarification mechanism (described in the [Conduct of the Contest](#) section below).

The ECNA RPC runs for five hours and consists of six or more problems. The problems draw from high school and college mathematics and computing, as well as everyday knowledge and problem solving. Scores are available on-line to contestants and to spectators, except that they are not updated during the last hour of the contest (so as to ensure suspense about the final rankings).

Conduct of the Contest

When the team feels that it has solved a problem, the solution (a program in C/C++, Java or Python) is submitted for judging. It is judged by compiling it and running it against blind test data. If it produces correct output for all test data, it is judged correct. If it produces incorrect output, it is judged incorrect. If it fails to run without error, it is judged incorrect.

Note: One difference from previous contests – submissions that are rejected by Kattis (a *submission error*) or that fail to compile are not judged and do not incur penalty time.

The judgement is communicated to the team in as timely a manner as possible, and the team may re-submit solutions judged incorrect. Re-submissions for problems already judged correct are ignored.

Notification of accepted runs may be suspended at an appropriate time to keep the final results secret. A general announcement to that effect will be made during the contest. Notification of rejected runs will continue until the end of the contest.

A contestant may submit a claim of ambiguity or error in a problem statement by submitting a *clarification request* to a judge. If the judges agree that an ambiguity or error exists, a *clarification* will be issued to all contestants.

Contestants are not to converse with anyone except members of their team and personnel designated by the ECNA RCD. Systems support staff may advise contestants on system-related problems such as explaining system error messages.

While the contest is scheduled for five hours, the ECNA RCD (in consultation with the ECNA Steering Committee) has the authority to alter the length of the contest in the event of unforeseen difficulties. Should the contest duration be altered, every attempt will be made to notify contestants in a timely and uniform manner.

A team may be disqualified by the ECNA RCD for any activity that jeopardizes the contest such as dislodging extension cords, unauthorized modification or misuse of contest materials, or distracting behavior.

If irregularities or misconduct are observed during the contest, team members or coaches should bring them to the attention of the contest officials so that action may be taken as soon as possible.

Scoring

A problem is solved when it is accepted by the judges. The judges are solely responsible for accepting or rejecting submitted runs. In consultation with the Chief Judge, the RCD determines the winners of the regional contest. The RCD and the Chief Judge are empowered to adjust for or adjudicate unforeseen events and conditions. Their decisions are final.

The score is based on three components: the number of problems correctly solved, the time from the beginning of the contest to the submission of a correct solution for each problem, and the number of incorrect submissions to a problem for which a correct solution is eventually submitted. First, teams are ranked in order of the number of correct solutions. When two or more teams have the same number of correct solutions, they are further ranked by penalty minutes computed as the sum of:

1. For each solved problem, the number of minutes from the beginning of the contest until the correct solution was submitted.
2. For each solved problem, 20 minutes for each incorrect solution submitted before the correct solution.

There is no time consumed for a problem that is not solved.

Tie Breakers

It is possible for a tie to occur - exactly the same number of penalty points and number of questions answered. The following tie breakers will be applied in the given order until a winner is determined. This method is only used where prizes or finals berths are at stake:

1. The team that achieves its final score first wins;
2. The team that solves its first problem first wins;
3. The team that has not appeared in the World Finals for a longer period of time wins;
4. A coin toss.

Example Scoring

Consider three teams, **Red**, **Green**, and **Blue**. The contest starts at 1:00 and the submissions are as follows:

- **Red** submits a correct solution to Problem A at 2:15.
- **Green** submits a correct solution to Problem B at 3:00.
- **Red** submits an incorrect solution to Problem H at 3:01.
- **Green** submits a correct solution to Problem A at 3:50.
- **Red** submits a correct solution to Problem H at 4:00.
- **Green** submits an incorrect solution to Problem C at 4:00.
- **Red** submits an incorrect solution to Problem G at 4:15.
- **Blue** submits a correct solution to Problem C at 5:00.

The scores are as follows:

- **1st Place:** Red with 2 correct, 275 penalty minutes.
- **2nd Place:** Green with 2 correct, 290 penalty minutes.
- **3rd Place:** Blue with 1 correct, 240 penalty minutes.

Appeals

Disclaimer: The ECNA RPC staff works, at all times, for the best intent of the students. Any decisions or judgments are based on the information at hand, and are predicated on fairness to all.

After the conclusion of the contest and the results have been made public, coaches may file complaints or appeals as described in The Rules of The ICPC Regional Contests under [Complaints, Appeals, and Remedies](#).