



ICPC FACT SHEET

The 2024 ICPC World Finals
The 48th Annual World Championships of the
ICPC International Collegiate Programming Contest
Astana, Kazakhstan 15-20 September 2024
hosted by
The Kazakhstan Competitive Programming Federation

About the Contest – icpc.global

The ICPC International Collegiate Programming Contest is the premiere global programming competition conducted by and for the world's universities. The ICPC operates under the auspices of the ICPC Foundation, which hosts ICPC Global Headquarters. We spotlight the students, coaches, universities, industry, and communities working to advance prospects of prosperity through team-based, algorithmic, competitive programming.

For over four decades, the ICPC has grown to be a game-changing global competitive educational program that has raised aspirations and performance of generations of the world's problem solvers in the computing sciences and engineering. With over 400,000 alumni, the ICPC community spans the globe. This season, ICPC Regionals, Workshops, Challenges and outreach contests have hosted 73,083 students with 12,258 coaches and co-coaches at 3,424 universities in 103 countries.

The ICPC community purpose remains at the heart of the ICPC: to advance prospects for the next generation by bringing students together, working collaboratively to solve algorithmically challenging problems, and preparing them to build dependable systems that benefit their neighbors with the support of universities, industry, and community leaders, globally. With ICPC principles, “*Put people first.*”, “*Practice goodwill.*” and “*Follow the Golden Rule.*”, the doors are open for students from all universities to compete in ICPC regional competitions with the opportunity to advance to the ICPC World Finals. See the [ICPC Code of Ethics](#).

ICPC World Finals host institutions that offer hospitality comparable to visiting grandma's house with special assistance to obtain passports and visas so that all who qualify may participate. The 46th and 47th ICPC World Finals in Luxor, hosted by The Arab Academy for Science, Technology, & Maritime Transport (AASTMT), will continue over four decades of global inclusion, advancing participants of any race, ethnicity, gender, religion, or nationality who qualify. The ICPC's purpose remains to uplift each generation on the path of excellence to build systems that benefit their communities together globally.

In ICPC competitions, teams of three students represent their universities in multiple levels of regional competition. Volunteer coaches prepare their teams with intense training and instruction in algorithms, programming, and teamwork strategy. Several ICPC universities and ICPC volunteers provide online judging systems free of charge. Top teams from regional competitions held on six continents will advance to the annual ICPC World Championship round of the ICPC World Finals, hosted by the Kazakhstan Competitive Programming Federation on September 19, 2024, in Astana, Kazakhstan.

The ICPC traces its roots to a competition held at Texas A&M in 1970 hosted by the Alpha Chapter of the UPE Computer Science Honor Society. The idea quickly gained popularity within the United States and Canada as an innovative initiative to raise the aspirations, performance, and opportunity of the top students in the emerging

field of computer science.

The contest evolved into a multi-tier competition, with the first Finals held at the ACM Computer Science Conference in 1977. Operating under the auspices of the ICPC Foundation and headquartered at Baylor University from 1989 to 2021, the contest has expanded into a global network of universities hosting regional competitions that advance teams to the ICPC World Finals.

The contest fosters creativity, teamwork, and innovation in building new software programs and enables students to test their ability to perform under pressure. It is the world's oldest, largest, and most prestigious programming contest and the root of competitive programming competitions.

The annual event comprises several levels of competition:

- Local Contests – Universities choose teams or hold local contests to select one or more teams to represent them at the next level of competition. Selection takes place from over 300,000 students in computing disciplines worldwide.
- This season, ICPC Regionals, Workshops, Challenges and outreach contests have hosted 73,083 students with 12,258 coaches and co-coaches at 3,424 universities in 103 countries.
- Eight ICPC Region Championships advance teams to the World Finals worldwide.
- World Finals – September 15-20, 2024, in Astana, Kazakhstan – Hosted by the Kazakhstan Competitive Programming Federation, the ICPC World Finalist teams compete for World Championship awards, prizes, and bragging rights. These teams represent the best of great universities on six continents - the cream of the crop.

Battle of the Brains

The contest pits teams of three university students against eight or more complex, real-world problems with a grueling five-hour deadline. Huddled around a single computer, competitors race against the clock in a battle of logic, strategy, and mental endurance.

Teammates collaborate to rank the difficulty of the problems, deduce the requirements, design test beds, and build software systems that solve the problems under the intense scrutiny of expert judges. For a well-versed computer science student, some problems only require precision. Others require knowledge and understanding of advanced algorithms. Still, others are simply too hard to solve – except for the world's brightest problem-solvers.

Judging is relentlessly strict. The students are given a problem statement – not a requirements document. They are given an example of test data but do not have access to the judges' test data and acceptance criteria. Each incorrect solution submitted is assessed a time penalty. You don't want to waste your customer's time when you are dealing with the supreme court of computing. The team that solves the most problems in the fewest attempts in the least cumulative time is declared the winner.

To learn more about the ICPC, please visit icpc.global.

For complete coverage of the World Finals, including social media, photos, video, live coverage, and live scoreboard, go to ICPCNews, news.icpc.global.

Contest Growth

The ICPC Foundation and UPE are thrilled that the contest continues to attract the best and brightest students worldwide. The ICPC student participation has increased by 2000% in 25 years. For more information on previous contests and last year's final standings and problem sets, please see icpc.global.

The 2024 ICPC World Finals in Astana, Kazakhstan, will host the 48th ICPC World Championships, the final round for the 2023-24 ICPC Regionals.

Teams from regional contests servicing universities worldwide will advance to the annual World Championship Round of the ICPC World Finals hosted by Kazakhstan Competitive Programming Federation and held in Astana, Kazakhstan, September 15-20, 2024.

Recent medal winners in order of finish are:

<p>47th ICPC World Finals Luxor 2023 Gold National Research University Higher School of Economics Peking University Moscow Institute of Physics and Technology Harbour.Space University - Barcelona Campus</p> <p>2023 Silver Tsinghua University Nanjing University Seoul National University University of Waterloo</p> <p>2023 Bronze The University of Tokyo Tokyo Institute of Technology Brigham Young University University of Warsaw Universidad de Buenos Aires - FCEN University of Cambridge National Taiwan University Xi'an Jiaotong University</p>	<p>46th ICPC World Finals Luxor 2022 Gold Peking University Massachusetts Institute of Technology National Research University Higher School of Economics University of Oxford</p> <p>2022 Silver Moscow Institute of Physics and Technology Seoul National University Taras Shevchenko National University of Kyiv University of Wisconsin-Madison</p> <p>2022 Bronze The University of Tokyo Tsinghua University Nanjing University of Posts and Telecommunications National Taiwan University</p>
<p>45th ICPC World Finals Dhaka 2021 Gold Massachusetts Institute of Technology Peking University The University of Tokyo Seoul National University</p> <p>2021 Silver ETH Zürich École Normale Supérieure de Paris Carnegie Mellon University University of Warsaw</p> <p>2021 Bronze National Research University Higher School of Economics St. Petersburg State University University of Oxford University of Engineering and Technology - VNU</p>	<p>44th ICPC World Finals Moscow 2020 Gold Nizhny Novgorod State University Seoul National University St. Petersburg ITMO University Moscow Institute of Physics and Technology</p> <p>2020 Silver University of Wrocław University of Cambridge Belarusian State University University of Bucharest</p> <p>2020 Bronze Massachusetts Institute of Technology Kharkiv National University of Radio Electronics University of Illinois at Urbana-Champaign National Research University Higher School of Economics</p>

About the ICPC Foundation

The ICPC Foundation is a 501(c)(3) organization founded to advance the art, sport, and science of competitive programming for the benefit of society. The ICPC International Collegiate Programming Contest operates under the ICPC Foundation and is responsible for sponsorship, fundraising, outreach, and operational matters. The ICPC Foundation strives to provide ample opportunity for the underserved, to create a tier of regional championships to recognize far more star performers and showcase emerging talent, and to bring ICPC alumni together, assuring future generations paths of excellence to being great problem solvers. The ICPC Foundation operates programs such as ICPC-U and the ICPC University Commons, which actively create opportunities, especially for the underserved, to pursue excellence within a culture of global inclusion and authenticity. For more information about the ICPC and the ICPC Foundation, visit icpc.foundation.

Institutional Sponsor Upsilon Pi Epsilon's Commitment

The Upsilon Pi Epsilon International Computer Science Honor Society recognizes the best computer science and engineering students in the world. Since its earliest participation, the UPE has provided support and scholarships to the World Finals teams. The UPE boasts the longest continuous relationship with the ICPC, dating back to 1970, with the first event held at Texas A&M by members of the Alpha Chapter of the UPE. For more information about other UPE activities, chapters, and membership, click upe.acm.org.

About Kazakhstan

Kazakhstan, officially known as the Republic of Kazakhstan, is the world's ninth-largest country. Kazakhstan's capital city is Astana. Other major cities in Kazakhstan include Almaty and Shymkent. The official language is Kazakh, with nearly 10 million speakers.

Kazakhstan has a population of over 19 million. Kazakhstan is a member of the United Nations and the World Trade Organization.

Universities in Kazakhstan are heavily engaged in the ICPC. The 2023 ICPC Kazakhstan Regional Contests featured 190 teams competing to advance to the ICPC Northern Eurasia Finals, which advances to the ICPC World Finals.

About Astana

Astana, the capital of Kazakhstan, is a symbol of rapid development and cultural diversity. Astana is known for its unusual architecture, including eye-catching Khan Shatyr, the Palace of Peace and Reconciliation, and the Nur Alem Museum of Future Energy. The city center contains the Baiterek Monument which is considered to be the symbol of Astana. Astana embraces visitors with open arms, promising unforgettable experiences and endless possibilities.

About the World Finals Host - The Kazakhstan Competitive Programming Federation

The Kazakhstan Competitive Programming Federation was established with the support of the Former Minister of Digital Development, Innovation and Aerospace Industry, Bagdat Batyrbekovich Mussin, together with the representatives of the Digital Nomads Kazakhstan IT community and the country's leading experts in competitive programming. The Kazakhstan Competitive Programming Federation is a key player in promoting educational initiatives and driving innovation within the IT industry in the country.