

## Bubble Cup 16 Rules

### SPONSOR

These are the Official Rules (“Rules”) that govern how the Microsoft Bubble Cup Competition operates (the “Competition” or “Bubble Cup”). Microsoft Software doo, Spanskih boraca 3/7, 11070 Belgrade, Serbia (Company Code 1866), is the Competition sponsor (“Sponsor”).

### DEFINITIONS AND AGREEMENT TO RULES

In these rules, “Microsoft”, “we,” “our,” and “us” refer to Sponsor, and “you” and “yourself” refers to an eligible entrant or team of eligible entrants, or the parent/legal guardian of any Competition entrant who has not reached the age of majority to contractually obligate themselves in their legal place of residence. By entering, you, or your parent/legal guardian if you are not the age of majority in your place of legal residence, agree to be bound by these Rules. By participating in the Competition, you represent and warrant that you meet the eligibility requirements. In addition, you agree to accept any decision of Sponsor with respect to this Competition as final and binding.

### OVERVIEW

Started by the Sponsor in 2008, the Bubble Cup has historically been an international team coding competition aimed at elementary, high school and university students. This year, the Bubble Cup aims to attract talented programmers from Serbia and promote the values of communication, companionship and teamwork. Round 1 will be held online and Round 2 in Serbia.

NO PURCHASE IS NECESSARY TO ENTER OR WIN THE COMPETITION. A PURCHASE DOES NOT INCREASE THE CHANCES OF WINNING OR PROVIDE ANY ADVANTAGE TO ANY CONTESTANT.

### COMPETITION PERIOD

The Competition starts at 14:00 CET on 8th May 2023 with a Qualifying Round and is projected to end in October 2023 with the Final round (the “Competition Period”). More information can be found in the table below.

Round	Start date	End date
Round 1 - Qualifying Round	8 May 2023 14:00 CET	8 June 2023 14:00 CET
Round 2- Final Round	October 2023*	October 2023*

\* The Final Round is anticipated to take place in-person on a single Saturday in October, and the exact day will be communicated to all participants when finalized. The Sponsor reserves the

right to change any competition details (including, but not limited to, dates, times and/or periods) in its sole discretion.

## ELIGIBILITY

You are eligible to enter the Competition if you attest to and meet the following requirements at all times during the Competition Period:

- **You have completed** all registration requirements described in these Rules;
- **You are** at least 15 years of age and at most 24 years of age at the start of the Round 1 and are actively enrolled as a student at an accredited Serbian educational institution at the high school or college/university level at any time during the Competition Period; and
  - If you are 15 years of age or older but have not reached the age of majority in your legal place of residence, then you should ask your parent's or legal guardian's permission prior to submitting an entry into this Competition.
- **You, and each member of your team,** normally reside(s) in Serbia.
- **You/your Team has not** used paid assistance in creating any works submitted as part of the Competition; and
- **You are not** an employee or intern of Sponsor, its affiliates (including Microsoft Corporation), subsidiaries, advertising and promotion agencies, and suppliers (collectively "Employees"); and
- **You are not** involved in any part of the execution or administration of this Competition; and
- **You are not** an immediate family member of (parent, sibling, spouse/domestic partner, child) or household member of an Employee.

Any person registering to participate in the Competition and meeting the eligibility criteria above is referred to as a "Contestant".

This Competition is void wherever prohibited by applicable law.

## TEAMS

Each competing team may consist of up to three (3) Contestants (a "Team"). A Team may also consist of a single Contestant. Contestants can form a Team, switch from one Team to another Team or join a Team at any point until 1 June 2023 14:00 CET. A Contestant can be a part of no more than one Team at any one point during the Competition. Changes to Teams and members of a Team can be made via the Bubble Cup website currently located at <http://bubblecup.org> ("Bubble Cup Website").

A Team can be comprised of either:

- Only university students

- All Contestants in a university Team must attend the same university or college (e.g., the University of Belgrade)
- Contestants may attend different faculties within the same university or college
- A Team is considered to be a university team if all Contestants are enrolled in a university or college as of the start of the-Qualifying Round
- Only high school students
  - Contestants may contain all high school students, all elementary students or a mixture of high school and elementary students
  - Contestants may be from different high schools and elementary schools
  - A Team is considered to be a high school team if all Contestants are enrolled in high school or elementary school as of the start of the-Qualifying Round

All Contestants on a Team should be present in the Final Round. If a Contestant on a Team is unable to be present during the Final Round, the Sponsor may accept at Sponsor's sole discretion one substitute Contestant per Team. A Team should provide the reasoning and justification for any requested substitution for Sponsor's determination of whether a substitution will be allowed.

Each Team is responsible for its own cooperation and teamwork. In no event will Sponsor officiate in any dispute regarding the conduct or cooperation within any Team or among its members.

## HOW TO ENTER

You can enter the Competition by first visiting <https://bubblecup.org/Account/Register> and registering an account as instructed on the Bubble Cup Website. Your account registration information must be complete and accurate to be eligible to participate in the Competition. Registration and entry into the Competition is open until 06/01/2023 at 14:00 CET. Although participants are encouraged to enter at any point during the registration period, not participating in the qualifying rounds will make it difficult to attain the points necessary to qualify for the Final Round.

The entry must fulfill all contest requirements, as specified, to be eligible to win a prize. Entries that are incomplete or do not adhere to the Rules or specifications may be disqualified at the sole discretion of Microsoft. You may enter only once and may not enter more times by using multiple email addresses, identities, or devices in an attempt to circumvent these Rules. If you use fraudulent methods or otherwise attempt to circumvent the Rules, your submission may be removed from eligibility at the sole discretion of Microsoft and you may be barred from participating in future Bubble Cup competitions.

We will disqualify any incomplete or illegible entries that we receive. We are not responsible for entries that we do not receive for any reason, or for entries that we receive but are not decipherable for any reason.

Upon registering, you will be sent information about the Qualifying Round submissions.

## COMPETITION ROUND DETAILS

Below is an overview of what to expect for each round of the Competition.

### Leagues

The Competition will include the following two separate leagues (each, a “League”):

1. Premier League: Open to elementary school, high school and university Teams located in Serbia
  - a. All Teams are entered into the Premier League by default
2. Rising Stars League: Open only to elementary and high school Teams located in Serbia. Serbian elementary and high school Teams can compete in either the Premier League or Rising Stars League, but only Serbian elementary schools and high schools can compete in the Rising Stars League.
  - a. Eligible Serbian Teams may choose to compete in the Rising Stars League by contacting Bubble Cup organizers prior to the end of the Qualifying Round.
  - b. Teams competing in the Rising Stars League may be composed of all elementary school Contestants, all high school Contestants, or a mix of elementary and high school Contestants, so long as all Contestants are citizens of Serbia.

## QUALIFYING ROUND

### General

The Qualifying Round begins on 8 May 2023 at 14:00 CET and ends on 8 June 2023 at 14:00 CET. The Qualifying Round is conducted online via the Bubble Cup Website under the “Competitor Corner” section. Teams and Contestants from both Leagues solve the same problems during the Qualifying Round but will be scored separately and will each have a separate scoreboard.

The Qualifying Round will include at least eight (8) problems, and Sponsor may post additional problems in its discretion.

There will be one Qualifying Round and one Final Round. Only Contestants and Teams that both participate in the Qualifying Round and qualify to advance will progress to the Final Round. The difficulty of the problems will increase considerably from the Qualifying Round to the Final Round.

## COMPILERS

Contestants and Teams will submit the Qualifying Round problems on the Bubble Cup Website using one of the following programming languages, which will be scored and tested using the corresponding compiler versions:

Language	Compiler
C#	Visual Studio 2019
C++	MinGW 7.2.0
Pascal	Free Pascal 2.6.4
Python	Python 2 and 3

All problem inputs should be read directly from standard input and problem output should be written to standard output, unless stated otherwise in the problem. The exact format of the input/output will be provided in the statement of the problem. Each Contestant on a Team may submit a maximum of 256 answers per problem. If any Contestant on a Team creates multiple accounts in order to bypass the maximum answer limitation, the Contestant and the Contestant’s entire Team will be disqualified and banned from future Bubble Cup competitions.

Contestants on the same Team are encouraged to work together to develop solutions, but sharing solutions with other Teams is strictly forbidden. If Sponsor determines that solutions submitted by different Teams are substantially similar, Sponsor will review each submission and, upon confirming that they are unacceptably similar, will disqualify both Teams.

#### PROBLEM TYPES AND SCORING

The Qualifying Round will consist of these two types of problems: (1) Classical and (2) Challenge. Scores for these types of problems are awarded as follows:

	Classical	Challenge
Qualifying Round	1 point per team	See “Challenge Problems” below

If a single test case doesn’t produce correct output, or time/memory limit is violated solution will be worth 0 points.

#### BONUS TIME

For each Classical problem solved, each Team will receive additional bonus time that can be used to offset penalty time incurred during the Final Round. Bonus time is calculated as follows:

$$bonusTime = (n * n)/4,$$

where  $n$  is the number of problems solved by a Team, and

$bonusTime$  is rounded down to the nearest whole number.

See the **Final Round** section below to see how Bonus Time impacts the final score.

#### CHALLENGE PROBLEMS

Challenge problems do not have a “correct” answer. Rather, solutions to Challenge Problems are judged against all other submissions for the Challenge Problems, and scores are scaled relative to the best solution from all Contestants. Each Challenge Problem will specify which of the following formulas will be used to scale the Scores for that Challenge Problem:

A:  $Score = \text{maxPointForProblem} * (1 - (1 - \text{minimalSolution} / \text{solution})^a)$

OR

B:  $Score = \text{maxPointForProblem} * (1 - (1 - \text{solution} / \text{maximalSolution})^a)$ ,

where  $a$ ,  $\text{maxPointForProblem}$ , is a constant unique to each Challenge Problem,

$\text{minimalSolution}$  is the minimal number of points from all Contestants in a given League for a given problem, and

$\text{maximalSolution}$  is the maximum number of points from all Contestants in a given League for a given problem.

Teams may submit multiple solutions for each Challenge Problem, but only the solution with the best score will be counted. Scores for a Challenge Problem will be recalculated whenever a new solution for that problem is submitted.

## FINAL ROUND

The Sponsor will add up all points earned in the Qualifying Round for Classical Problems and Challenge Problems for each Team (the “Overall Score”).

For the Premier League, the top 8 Teams with the highest Overall Scores will be invited to compete in the Final Round. All teams from Serbia with eligible competitors are eligible teams.

For the Rising Stars League, the top 8 Teams with the highest Overall Scores will be invited to compete in the Final Round. In addition, the top 4 Teams by Overall Score from “specialized IT departments” will also be invited to compete in the Final Round, if they haven’t already qualified. A Team is considered a “specialized IT department” if all Contestants on a Team are from a specialized IT department, but do not have to be from the same specialized IT department to qualify. A “specialized IT department” are those schools listed at [specialized IT departments](#).

In addition to the Teams qualifying as described above, the Sponsor reserves the right to extend wildcard invitations to any Team it deems worthy.

Bubble Cup will provide adequate food and beverages for the duration of the Final Round, but the Contestants must consume all food and beverages in a manner that does not disturb any other Contestant or Team.

## FINAL PROBLEMS

During the Final Round, the Teams will be presented a set of at least 8 problems (but possibly more), for which they will have a total of 5 hours to solve all of the problems. At least 5 of the problems will be the same for the Premier League and the Rising Stars League, but the remaining problems may be different.

Each Team will be provided one computer to use to develop solutions to the problems. All of the computers provided will be substantially similar to each other (similar computing power, configurations, hardware, etc.).

Programming languages available for the Final Round are C#, C++, Pascal and Python, and the compiler versions for each language will be announced on the Bubble Cup Website before the Final Round begins.

Usage of any printed or electronic materials (including mobile phones, calculators or computers) other than the computers provided by Bubble Cup are strictly prohibited, and any violation of this prohibition will result in the disqualification of the Team. Each Team will be provided pen and paper.

During the Final Round, Contestants can ask Bubble Cup for clarifications regarding any of the problems. If the response from Bubble Cup is anything other than “no comment”, the question and the answer given will be made available to all other Teams.

## SCORING

During the Final Round, Contestants will submit their solutions to the Bubble Cup scoring system to be graded. The scoring system will compile and run the submitted solutions against a set of pre-defined test cases. If the outputs from the test cases are correct, and the time and memory constraints defined in the statement of the problem are met, the submitted solution will be considered correct, and the Team will be rewarded one point. If the submitted solution is not correct, the Team will receive a notification that their solution was rejected along with a reason explaining why it was rejected. For each rejected solution, the submitting Team will be given a 20-minute penalty.

At the end of the Final Round, Bubble Cup will count the total number of points that each Team scored (“Total Score”). If more than one Team scores the same number of points, those tied Teams will be ranked according to who has the lowest Total Time. “Total Time” will be calculated as follows:

$$\text{Total Time} = \text{Spent Time} + \text{Penalty Time} - \text{Bonus Time}$$

where *Spent Time* is the total amount of time spent to solve all problems in the Final Round,

*Penalty Time* is the total amount of time penalized for submitting rejected solutions, and

*Bonus Time* is the bonus time earned during the Qualifying Round.

The top 3 teams in each League will win valuable prizes.

#### WINNER SELECTION AND NOTIFICATION

The winners will be selected by a jury under the supervision of the Sponsor, or through other appropriate means, based on the Total Score and Total Time of each Team in the Final Round. The winners will be notified during the award ceremony in the late afternoon following the completion of the Final Round via the contact information provided during the registration process.

The Sponsor shall have no liability for a winner's failure to receive notices due to spam or junk email filters or other security settings rejecting such notices or for the winner's provision of incorrect or otherwise non-functioning contact information. If a winner cannot be contacted, the winner's given contact information is ineligible or indecipherable, the winner fails to claim the prize within seven (7) days from the time award notification was sent, or the winner fails to timely return a completed and executed declaration and release as required, the prize may be forfeited and an alternate winner selected. Receipt by a winner of the prize offered in this contest is conditioned upon compliance with applicable laws and regulations. Any violation of these Rules by a winner will result in such winner's disqualification and termination of winner privileges at the Sponsor's sole discretion.

#### RIGHTS GRANTED BY YOU

By entering the contest, you are granting Microsoft, anyone acting on behalf of Microsoft, and Microsoft's licensees, successors, and assigns, an irrevocable, perpetual, royalty-free, worldwide right and license to: (i) use, review, assess, test, and otherwise analyze your entry and all its content in connection with this Competition; and (ii) feature your entry, name, portrait, picture, voice, likeness, image, statements about the contest, and biographical information and all its content in connection with the marketing, sale, or promotion of this Competition (including but not limited to internal and external presentations, tradeshow, and screen shots of the competition entry process in press releases) in all media (now known or later developed) without any further compensation, notice, review, or consent.

You represent and warrant that your entry is an original work of authorship, and does not violate any third party's proprietary or intellectual property rights. If your entry infringes upon the intellectual property right of another, you will be disqualified at the sole discretion of Microsoft. If the content of your entry is claimed to constitute infringement of any proprietary



or intellectual proprietary rights of any third party, you shall, at your sole expense, defend or settle against such claims. You shall indemnify, defend, and hold harmless Microsoft and Microsoft's affiliates from and against any suit, proceeding, claims, liability, loss, damage, costs or expense, which Microsoft or its affiliates may incur, suffer, or be required to pay arising out of such infringement or suspected infringement of any third party's right.

## AMENDMENT AND OTHER TERMS

Microsoft reserves the right, in its sole discretion, to cancel, terminate, modify or suspend the contest at any time. In such case, Microsoft may select the winner(s) from all eligible entries received prior to and/or after (if appropriate) the action taken by Microsoft. Microsoft reserves the right, in its sole discretion, to disqualify any individual who tampers or attempts to tamper with the entry process or the operation of the Competition or Bubble Cup Website. Microsoft has the right, in its sole discretion, to maintain the integrity of the contest, to void participation for any reason, including multiple entries from the same user from different IP addresses; multiple entries from the same computer in excess of that allowed by the Rules; or the use of bots, macros, scripts, or other means for entering. Any attempt by an entrant to deliberately damage any website or undermine the legitimate operation of the Competition may be a violation of criminal and civil laws. Should such attempt be made, Microsoft reserves the right to seek damages to the fullest extent permitted by law.

**Important note about cheating:** If a Contestant or Team cheats, or a virus, bug, bot, catastrophic event, natural disaster, or any other unforeseen or unexpected event that cannot be reasonably anticipated or controlled (also referred to as force majeure) affects the fairness and/or integrity of this Competition, we reserve the right to cancel, change, or suspend this Competition. This right is reserved whether the event is due to human or technical error. If a solution cannot be found to restore the integrity of the Competition, we reserve the right to select winners from among all eligible entries received before we had to cancel, change or suspend the Competition.

If you or your Team attempts to compromise the integrity or the legitimate operation of this Competition, or if we have reason to believe that you or your Team have compromised the integrity or the legitimate operation of this Competition by cheating, hacking, creating a bot or other automated program, or by committing fraud in any way, we may seek damages from you to the fullest extent permitted by law. Further, we may disqualify you, and ban you from participating in any of our future Competitions, so please play fairly.

## LIMITATION OF LIABILITY

By entering, you agree to release and hold harmless Microsoft and its subsidiaries, affiliates, advertising and promotion agencies, partners, representatives, agents, successors, assigns, employees, officers, and directors from any liability, illness, injury, death, loss, litigation, claim, or damage that may occur, directly or indirectly, whether caused by negligence or not, from: (i) such entrant's participation in the contest and/or his/her acceptance, possession, use, or misuse of any prize or any portion thereof; (ii) technical failures of any kind, including but not limited to

the malfunction of any computer, cable, network, hardware, or software, or other equipment; (iii) the unavailability or inaccessibility of any transmissions, telephone, or Internet service; (iv) unauthorized human intervention in any part of the entry process or the contest; (v) electronic or human error in the administration of the contest or the processing of entries.

#### DISPUTES AND GOVERNING LAW

This Competition is governed by the laws of the Republic of Serbia, without respect to conflict of law. As a condition of participating in this contest, participant agrees that any and all disputes that cannot be resolved between the parties, and causes of action arising out of or connected with this contest, shall be resolved individually, without resort to any form of class action, exclusively before a court located in the Republic of Serbia having jurisdiction. Further, in any such dispute, under no circumstances shall participant be permitted to obtain awards for, and hereby waives all rights to, punitive, incidental, or consequential damages, including reasonable attorneys' fees, other than participant's actual out-of-pocket expenses (i.e. costs associated with entering this contest). Participant further waives all rights to have damages multiplied or increased.

#### PRIVACY POLICY

Information submitted with an entry is subject to the Microsoft Privacy Policy located at <https://privacy.microsoft.com/en-GB/>.

#### WINNERS LIST

The winners' names will be posted on the day of the Final Round after the awards ceremony at the Bubble Cup Website.

#### CONTACT INFORMATION

In case you have any questions about the Competition, please contact: [bubblecup@petlja.org](mailto:bubblecup@petlja.org)