**SEC 2020 Programming**

The Programming Competitions challenges competitors to create a program which solves the presented problem.

**Team Composition**

Programming teams will be comprised of between two (2) and four (4) competitors.

**Required Resources**

Each competitor must have access to a computer with legal copies of developmental software. Programming languages are restricted to the following: Assembly, C, C++, Objective-C, C#, Java, JavaScript, Python, Ruby, Perl, VB, VHDL, Lisp, MatLab, Maskell, SQL, PHP, HTML, and Typescript. There are no restrictions on compilers.

Any additional required tools, equipment, or software will be communicated by the competition director.

**Competition Structure**

**Pre-Competition**

At least three (3) days before the competition, information about the competition will be sent to all competitors. A detailed competition timeline, competition theme, necessary background information, and a list of required, optional, and prohibited tools will be provided.

**Competition**

The problem will be presented to all competitors in oral and written format at the beginning of the competition. The problem package will outline the problem definition, background information, design and presentation requirements, rules, and marking scheme.

Teams will be given five (5) hours to design and develop a solution, produce all required deliverables, and prepare a presentation for the judges. All deliverables must be submitted electronically before the allotted time expires.

Competitors have fifteen (15) minutes to present and demonstrate their solution. The judges will then have a maximum of ten (10) minutes to ask questions. The judges can also ask a question at any time during the presentation.

The presentation order will be selected randomly and be announced thirty (30) minutes before the first presentation is to take place. Teams will not be allowed to change their presentation order.

**Deliverables**

Each team will submit all deliverables outlined by the problem package electronically to the competition director at the end of the design period. All deliverables must be submitted electronically to the competition director, <name> at <email>.

**Time Keeping**

The following rules concerning timing must be followed:

* The time must be stopped when a judge asks a question during the presentation period and will resume once the competitor(s) finish responding.
* The remaining time will be indicated to the competitor(s) when three (3) hours, one (1) hour and ten (10) minute remain before the end of the design period.
* The remaining time will be indicated to the competitor(s) when five (5) minutes, and one (1) minute remain before the end of the presentation time.
* Teams whose presentations exceed fifteen (15) minutes in length will be given a fifteen (15) second grace period to complete their presentation, after which the presentation will be terminated by the Competition Director.

**Judging Matrix**

A breakdown of the assessment guidelines are as follows:

|  |  |
| --- | --- |
| **Presentation** | **/30** |
| Presentation Organization | /10 |
| Confidence and Presence | /5 |
| Communication | /5 |
| Visual Aides | /5 |
| Question Responses | /5 |
| **Design Quality** | **/70** |
| Program Design | /20 |
| Solution Performance | /15 |
| Technical innovation and creativity | /15 |
| Appropriate user documents | /10 |
| **Penalties** |  |
| Plagiarism | Disqualification |
| Absent Team Member | -25 per member |
| Failure to address competition theme | -10 |
| Reported bugs/issues | -5 per bug/issue |
| Non-reported bugs/issues | -20 per bug/issue |
| **Total** | **/100** |