

**IOI 2020 Singapore (Online Competition)
E-Proctoring Minimal Rules
Version 1.2 (Final): 8 September 2020**

Introduction

Due to COVID-19, IOI 2020 Singapore will be conducted as an online competition. To ensure the integrity of the competition results, the host hopes that every team could assist in enforcing the rules of the competition in the best way possible. This document is to outline the minimal rules of e-proctoring.

By default, team leaders are assumed that they will enforce these minimal rules for their team during the execution of IOI 2020 Singapore (Online Competition). Deviation from the requirements (unless permitted by the IC) will be grounds for immediate disqualification.

Brief Description of the Contest Rules

- Contestants are expected to access the Online Judge system for IOI 2020 via a computer with Internet access using VM.
 - The contestants must be in their VM in maximized window/full screen mode at all times
- Reference materials (written, printed, or digital forms) are not allowed.
 - Exceptions may be made for physical dictionaries
- During the contest, contestants should not (directly or indirectly) access any online resources except those allowed by the Scientific and Technical Committee.
- During the contest, there should not be any communication with another individual unless permitted by the appointed proctor.

Proctors

- The team leader is expected to be responsible for enforcing the Online IOI Contest Rules for his/her team. Every contestant is expected to be *physically* invigilated/proctored by the team leader or an adjunct appointed by the team leader.
- The team leader/adjunct *must not have any conflict of interest* with the performance of the participant.
 - Example: parent/sibling of a contestant, (main) coach of contestant(s)
- They must also be registered in the IOI Registration System (no guest fee) and their identity will be published on the IOI Statistics Website.
- There should be at least **n+1** proctors to enforce the contest rules, given **n** different sites
 - If **n = 1** site, then there should be at least $1+1 = 2$ proctors
 - If there are **n** different sites, then there should be at least **n+1** proctors
 - Only the **+1** can be not onsite
 - Rationale: contest site should not be left un-proctored at any time during the contest, e.g., if the proctor has to go to the toilet

Contest Sites

- Each team can establish either a single (preferred) or multiple 'contest-sites' as per local government requirements on 13-19 September 2020, each with one or more contestants participating. There is no restriction on the venue of the site if all the rules can be adhered to. Here are some examples of possible candidates for contest-sites:
 1. Computer Laboratory in local universities/schools
 2. Meeting room within a corporate office
 3. Leader's or participant's place of residence
 4. Conference room in a hotel

- Every contest site should have the following setup:
 1. Computers with Internet connectivity. One is required for each participant. *Spare*s are *highly recommended*. Details on the hardware and software specifications of the computer can be found in later section.
 2. Sufficient equipment and connectivity for the *onsite proctor* to engage in a video-call (preferred) or at least web messaging with the host organizing team throughout the contest *for emergency cases*.
 - Adequate audio setup allowing the proctor to converse with the host organizing team on the video-call (e.g.: speakers, headsets, microphones)
 - Rationale: in the event of emergencies, a local onsite proctor is supposed to contact the host operation team for help and let the contestant continue working on the task (possibly offline).
 3. There must be sufficient (social distancing) separation between contestants at the contest site so that contestants cannot:
 - Look at each other screens/written workings from their seat
- For the avoidance of doubt, the below features of a typical IOI are allowed, but not required (optional):
 1. Participants can bring snacks, food and/or mascot
 2. File backup system to migrate contestant's work during a machine failure
 3. Network and power redundancy systems
 4. External keyboard and mouse

The Recorded Videos (Optional)

- *Locally* recorded video feeds of the room (multiple camera feeds, *at least two*)
 - Minimum requirements:
 - Should be able to see all of the overview of the screens (i.e., we just need to establish that the contestants are in their VM in maximized window/full screen mode)
 - Should be able to see all of the faces (including the presence of at least one proctor at all times)
 - Should be able to see a local clock
 - Rationale: To provide enough material for checking if there is suspicious case of cheating. Since this video recording is now optional, the responsibility is now with the team leaders
- Videos should be able to be used to determine the following:
 - Are contestants at their computers?
 - Are there any proctors in the room at all times?
 - What is the contestant doing on their screen and desk?
 - What is the current local time of any event (e.g., contestant leave briefly to the toilet)?

Computer Specifications

Refer to: <https://ioi2020.sg/contestantpc/>

Sample Scenarios

Sample Configuration A

Contest Site

- A single contest site is decided - a computer laboratory in a local university
- All 4 participants will participate from the same contest site, proctored by the leader and the deputy leader of the team.
- Participants will use Desktop computers in the computer laboratory for the contest.
 - These computers are connected to the Internet via wired connectivity.
- (Optional) An additional laptop (with webcam) is positioned nearby for video-call purposes.
 - These laptops are connected to the Internet via the WiFi infrastructure of the university.
- (Optional) Two additional cameras (preferably on a tripod/stable base) is positioned to provide a full view of the entire laboratory (two angles and for redundancy purposes).

Travel and Accommodation

- Participants and leaders will travel to the local university before the competition
- Throughout the competition period, the participants and leaders will be staying at the University's accommodation for undergraduates.

Sample Configuration B

- Due to restrictions on domestic travel, there will be one contest site for each participant with one local physical proctor each. Another +1 proctor (not necessarily onsite) will cover any local proctor in the event the local proctor needs to leave the contest site briefly (e.g., to the toilet). They are detailed as below.

Participant A

Contest Site

- Participant A will compete from their place of residence.
- A University faculty member staying in close proximity is tasked to be the proctor/adjunct by the team leader.
- The participant's laptop will be used for the contest.
 - Irrelevant software have been uninstalled (e.g.: messaging applications)
 - Existing codes/files have been deleted (after transferring to a thumb drive)
- (Optional) Laptop's webcam is used for video-call purposes.
 - There is some impact on the laptop's performance when engaged in the video call.
- (Optional) One additional laptop (with webcam) is positioned to provide a full view of the room used by Participant A.

Travel and Accommodation

- Participant A does not need to travel and will stay at their place of residence throughout the competition period.
- Appointed adjunct/proctor will travel (short distances) to Participant A's place of residence for the purposes of proctoring.

Participant B

Contest Site

- Participant B will compete from a classroom of a nearby/his own high-school.
- A teacher of the high-school is tasked to be the proctor/adjunct by the team leader.
- One laptop from the high-school will be used for the contest.

- (Optional) One additional camera (on a tripod) is positioned to provide a full view of the entire laboratory.

Travel and Accommodation

- Both the proctor and participant travel to the contest site on contest days. The contest site is chosen such that such short-distance travels are possible.
- They will stay at their usual place of residence.

Participant C

Contest Site

- Participant C will compete from a hotel room.
- A representative from the national Olympiad committee is appointed by the team leader to proctor.
- One laptop is configured by the national Olympiad committee and will be used by the participant for the contest.
- (Optional) One additional laptop (with webcam) is positioned to provide a full view of the room used by Participant C.

Travel and Accommodation

- Both the participant and proctor travel to the hotel before the competition.
- Location can be chosen to optimize for travelling restrictions and travelling time.
- Both the participant and proctor will stay in the hotel for the whole contest duration.

Participant D

Contest Site

- Participant D will compete from a meeting room from a nearby office location.
- A representative from the office/company is appointed by the team leader to proctor.
- The participant's laptop will be used for the contest.
 - Irrelevant software have been uninstalled (e.g., messaging applications)
 - Existing codes/files have been deleted (after transferring to a thumb drive)
- (Optional) One additional laptop (with webcam) is positioned to provide a full view of the room used by Participant A.

Travel and Accommodation

- Both the participant and proctor travel to the office only during the contest days.
- They will stay at their usual place of residence.