

OVERVIEW

Participants will demonstrate their knowledge of computer science and coding by taking a written test. Semifinalists will further demonstrate their programming knowledge by participating in an on-site programming challenge. Details about the on-site challenge (e.g., programming language to be used and practice problems) can be found on the [TSA website](#) under Competitions/Themes and Problems.

ELIGIBILITY

One (1) team of two (2) individuals per chapter may participate.

TIME LIMITS

PRELIMINARY ROUND

1. Participants have one (1) hour to complete the written test; all participants will take the test simultaneously.

SEMIFINAL ROUND

1. Participants have two (2) hours to complete the on-site challenge.

LEAP

A team LEAP Response is required for this event and must be submitted at event check-in.

ATTIRE

TSA competition attire is required.

PROCEDURE

PRELIMINARY ROUND

1. Participants report for the test at the time and place stated in the conference program and submit a hard copy of the LEAP Response with no report cover.
2. Both team members take the written test.
3. The top twelve (12) averaged scoring teams qualify as semifinalists.
4. A list of twelve (12) semifinalist teams (in random order) will be posted.

SEMIFINAL ROUND

1. Semifinalist teams report at the time and place stated in the conference program.
2. The problem, evaluation criteria, and materials will be distributed to the teams on-site.
3. Participants must provide their own computer hardware and software.
4. Teams have two (2) hours to design and present their solution.
5. The LEAP Response will be judged for semifinalist teams.
6. Ten (10) finalists will be announced during the conference awards ceremony.

REGULATIONS AND REQUIREMENTS

PRELIMINARY ROUND

- A. Participants will take a multiple choice test to evaluate their knowledge of software development, coding, operating systems, programming languages and algorithms.
- B. Tests may be administered online or via a scan-type answer sheet. Please review the Competition Updates page on the [TSA website](#).
- C. Participants are responsible for bringing two (2) sharpened No.2 pencils to the test site.

SEMIFINAL ROUND

- A. All work must be completed in the event area during the time specified for the event.
- B. Teams must bring:
 1. One (1) laptop
 2. Extra charged laptop battery or extra charged laptop as backup (but only one laptop may be used at any time)
 3. One (1) computer mouse
 4. Teams may also bring pencils and paper.
- C. Teams do NOT have access to electrical power/outlets during the event.
- D. Teams do NOT have access to the Internet during the event.

- E. Students must have all software development tools needed for the competition downloaded and accessible on their computers.
- F. All solutions must be tested, demonstrated and presented by participants in front of the judges.
- G. The LEAP Response:
 - 1. Participants document the leadership skills they have developed and demonstrated while working on this event, and on a non-competitive event leadership experience.
 - 2. Find specific LEAP Response regulations in the LEAP Program section of this guide, and on the [TSA website](#).

EVALUATION

PRELIMINARY ROUND

- 1. Each team's averaged written test score is used to determine the twelve (12) semifinalist teams.

SEMIFINAL ROUND

- 1. Semifinalists will be evaluated on the solution to the on-site problem, and the content and quality of their LEAP Response.
 - a. Each problem in the programming challenge will have an objective correct answer.
 - b. Second-best attempts or other objective criteria will be used to break ties when necessary.
 - c. Only as a last resort will subjective criteria, such as originality, be used to evaluate solutions.

STEM INTEGRATION

Depending upon the subject of the problem, this event may align to one (1) or more STEM areas.

CAREERS RELATED TO THIS EVENT

This competition connects to one (1) or more of the careers below:

- Computer software engineer
- Mathematician

CODING

2020 & 2021 OFFICIAL RATING FORM

MIDDLE SCHOOL

Judges: Using minimal (1-4 points), adequate (5-8 points), or exemplary (9-10 points) performance levels as a guideline in the rating form, record the scores earned for the event criteria in the column spaces to the right. The X1 or X2 notation in the criteria column is a multiplier factor for determining the points earned. (Example: an “adequate” score of 7 for an X1 criterion = 7 points; an “adequate” score of 7 for an X2 criterion = 14 points.) A score of zero (0) is acceptable if the minimal performance for any criterion is not met.

Go/No Go Specifications

- Before judging the entry, ensure that the items below are present; indicate presence with a check mark in the box.
- If an item is missing, leave the box next to the item blank and place a check mark in the box labeled ENTRY NOT EVALUATED.
- If a check mark is placed in the ENTRY NOT EVALUATED box, the entry is not to be judged.

- Laptop is present
- Completed LEAP Response is present
- ENTRY NOT EVALUATED

WRITTEN TEST (50 points)	
WRITTEN TEST SUBTOTAL (50 points)	

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right. Indicate the rule violated: _____	
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PRELIMINARY SUBTOTAL (50 points)	
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ON-SITE PROBLEM – SUBJECTIVE (20 points)				Record scores in the column spaces below.
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	
	1-4 points	5-8 points	9-10 points	
Subjective criteria (X2)	Team did not work well together, did not understand solution, and did not demonstrate an understanding of coding practices.	Team worked reasonably well together; team demonstrates an adequate understanding of the problem solutions and of coding practices.	Team works well together and demonstrates superior understanding of the solution and of coding practices.	
ON-SITE PROBLEM (SUBJECTIVE) SUBTOTAL (20 points)				

ON-SITE PROBLEM – OBJECTIVE (80 points)				
Evaluation: A finite unit of measure, such as elapsed time, linear distance, and/or strength, etc., is used to determine ranking.				
1st: 80 Points	2nd: 75 Points	3rd: 70 Points	4th: 65 Points	5th: 60 Points
6th: 55 Points	7th: 50 Points	8th: 45 Points	9th: 40 Points	10th: 35 Points
ON-SITE PROBLEM (OBJECTIVE) SUBTOTAL (80 points)				

LEAP RESPONSE (15 points)			
CRITERIA	Minimal performance	Adequate performance	Exemplary performance
LEAP Response (10% of the total event points)	The team's efforts are not clearly communicated, lack detail, and are unconvincing; few, if any, attempts are made to identify and incorporate the SLC Practices.	The team's efforts are adequately communicated, include some detail, are clear, and are generally convincing; identification and incorporation of the SLC Practices are satisfactory.	The team's efforts are clearly communicated, fully-detailed, and convincing; identification and incorporation of the SLC Practices are excellent.
LEAP RESPONSE SUBTOTAL (15 points)			

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.

Indicate the rule violated: _____

SEMIFINAL SUBTOTAL (15 points)

To arrive at the **TOTAL** score, add any subtotals and subtract rules violation points, as necessary. **TOTAL (165 points)**

Comments:

I certify these results to be true and accurate to the best of my knowledge.

JUDGE

Printed name: _____ Signature: _____



CODING

EVENT COORDINATOR INSTRUCTIONS

PERSONNEL

- A. Event coordinator
- B. Judges:
 1. Semifinalist round, two (2) or more
- C. Assistants to help check-in, distribute materials, monitor the tasks, and the clean up of the on-site activity, two (2) or more

MATERIALS

- A. Coordinator's packet, containing:
 1. Event guidelines, one (1) copy for the coordinator and each judge
 2. TSA Event Coordinator Report
 3. List of judges/assistants
 4. Results envelope with coordinator forms
- B. Tables and chairs for participants
- C. Tables and chairs for judges
- D. Coordinators are responsible for creating the test to be administered at the national conference; copies will be provided by the national TSA office.
- E. Answer sheets (scan-type) and paper
- F. Extra sharpened No.2 pencils
- G. Twelve (12) copies of a well-written, technologically appropriate problem for each semifinalist team that can be objectively measured; one (1) copy per team
- H. Adequate conditions, tools, materials, monitoring, and testing devices for the problem
- I. Stopwatch or clock for timekeeper

RESPONSIBILITIES

AT THE CONFERENCE

1. Attend the mandatory coordinator's meeting at the designated time and location.
2. Report to the CRC room and check the contents of the coordinator's packet.

3. Review the event guidelines and check to see that enough personnel have been scheduled.
4. Inspect the area(s) in which the event is to be held for appropriate set-up, including room size, chairs, tables, etc. Notify the event manager of any potential problems.
5. At least one (1) hour before the event is to begin, meet with judges to review time limits, procedures, and regulations. If questions arise that cannot be answered, speak to the event manager before the event begins.

PRELIMINARY ROUND

1. Prior to the conference, the event coordinator shall become familiar with the format of the exam (refer to the Competition Updates page of the [TSA website](#)).
1. Begin the event at the scheduled time by closing the doors and checking the entry list.
2. All participants and judges should be in the room at this time.
3. Late participants and/or entries are considered on a case-by-case basis and only when lateness is caused by events beyond the participant's control.
4. In order to compete, participants must be on the entry list or must have approval of the CRC.
5. Distribute any necessary materials.
6. Monitor the one (1)-hour test.
7. Score the exams.
8. Decisions about rules violations must be discussed and verified with the judges, event coordinator, and the CRC manager to determine either:
 - To deduct twenty percent (20%) of the total possible points in this round
 - To disqualify the entry

The event coordinator, judges and CRC manager must all initial either of the violations on the rating form.

- Judges determine the twelve (12) semifinalists and discuss and break any ties.
- Submit semifinalist results and all related forms in the results envelope to the CRC room.

SEMIFINAL ROUND

- At least one (1) hour before the event is scheduled to begin, meet with semifinalist judges to review time limits, procedures, and regulations. If questions arise that cannot be answered, speak to the event manager before the event begins.
- Check-in the semifinalist teams and equipment:
Teams must bring:
 - One (1) laptop
 - Extra charged laptop battery or extra charged laptop as backup (but only one laptop may be used at any time)
 - One (1) computer mouse
 - Teams may also bring pencils and paper.
- Teams do NOT have access to electrical power/ outlets during the event.
- Teams do NOT have access to the Internet during the event.
- Students must have all software development tools needed for the competition downloaded and accessible on their computers.
- Once teams are seated and general announcements have been given, distribute and review the problem and start the time.
- All solutions must be tested, demonstrated and presented by participants in front of the judges. Judges and assistants observe, with judges evaluating solutions as soon as appropriate.
- Discuss rule violations (e.g. 20% deduction, disqualification) and have all relevant parties initial the rating form.
- Judges determine the ten (10) finalists and discuss and break any ties.
- Submit the finalist results and all related forms in the results envelope to the CRC room.
- Manage security and the removal of materials from the area.