MESA DAY CONTEST RULES
2024-2025
(DRAFT)

Coding Solutions

LEVEL: High School (HS)

DIVISION(S):   Novice: No prior *Coding Solutions competition* participation, and
Experienced: Prior *Coding Solutions competition* participation

COMPOSITION OF TEAM: 1-2 student(s) per team

NUMBER OF TEAMS: Preliminary – Determined by your local MESA center
Regional – # of teams per division at the discretion of each region
(Northern/Central, LA/Central Coast, and Southern)

SPONSORS: UC Davis MESA College Prep
UC Riverside MESA College Prep

OVERVIEW: Congratulations! Thanks to your outstanding participation with the MESA Program. You have been invited to a virtual interview for a software company to obtain an internship. As part of the interview process they will test your knowledge on programming fundamentals and problem solving using Python 3. Students should be familiar with Algebra topics. **Participation logistics and limits may vary by host site. Advisors and students are responsible for verifying this information with their local MESA center.** This competition will be in-person for 2024-2025 but can also be hosted virtually, dependent upon the host center.

MATERIALS:
- An internet connected device with a keyboard is required.
- Students must create their own account on Code HS (see Regional links on Page 4) .

GENERAL RULES:
1) The challenge is suggested to take place within a 60 minute period for all participants at the same time and date. Participants must make sure they are on time and have the resources they need before the competition.
2) Students must have their full name(s), grades, school, and MESA center commented at the beginning of **one** of the challenges submitted. A 10% penalty will be assessed for failing to properly label.
3) This competition will be held during a 60-minute window.
    a) Novice level will have two challenges: 1 Debug Challenge, 1 Technical Challenge
    b) Experienced level will have three challenges: 2 Debug challenges, 1 Technical Challenge
4) Division entry will be determined by participation in prior year Coding Solutions competitions; If one team member is experienced, then the entire team will compete in the Experienced division.

5) **The Debug challenges must be completed in order to receive a score for the Technical Challenge.**
6) Challenge Descriptions
    a) A debug challenge is a type of programming challenge that requires you to find and fix errors in code. Each challenge will have 10 errors ranging in complexity.
    b) A technical challenge is a type of programming challenge that requires you to code a solution from scratch to create the desired outputs based on the prompt provided.
7) Teams will earn 10 points for each test case that their submission passes. There will be 5 hidden test cases.
8) To be eligible to compete in this competition, **ALL** team members must complete the specified pre-course **one week prior to the contest date:** at least 60% of assignments for Novice or 90% of assignments for Experienced.
    a) The assignments are on the MESA Day Python Course Assignments on the specified CodeHS course (see "Enrollment Links" attachment/appendix).
9) EACH team member **MUST** follow the naming convention for their accounts; if not adhered to, team will be disqualified (see Page 4 for visual example).
    a) First name field: Abbreviated MESA Center and School Name
    b) Last name field: Student's First and Last Name

JUDGING:
1) Teams will have 60-minutes to complete the challenges.
2) **One team member,** on behalf of the team, will login, enroll and complete the specified competition "Course." If both team members' accounts are present for the MESA Day Challenge Course, that team **will not** be eligible for an award.
3) Challenges start and end at times and dates specified by the hosting Center.
4) Students will have 60 minutes to complete the Challenges.
5) Teams may submit their completed programs as soon as they like or make revisions within time.
6) The timestamp of the last submission for each challenge will be used to determine the winners.
7) The final submission will be the last project that was submitted before time runs out.
8) Winners will be determined based on the following order:
    a) The first individual or team based on timestamp to
        i) Successfully submit programs that pass all test cases for challenges.
        ii) Successfully submit programs that pass all debugging test cases and have the most test cases passed for the technical challenge.
        iii) The most test cases passed for the first debug challenge.
9) **TIEBREAKER:** Team that submitted completed challenges first wins.
10) If no teams are successful, no awards will be given. For preliminary competitions, advancement to regional competitions will be at the center's discretion.
11) All testing of code will occur within CodeHS.

AWARDS:
- Awards will be given per division: Novice and Experienced.
- Medals will be awarded for 1st, 2nd, and 3rd place based on the Grand Total.
- Please check with your MESA center to determine the number of teams that advance to Regional MESA Day.

ATTACHMENTS/APPENDIX:
- Topics Student(s) Need to Know

- Resources
- MESA Day JavaScript Course (required pre-course)
- Specification and Score Sheet for Coding Solutions

Programming Topics Student Need to Know

- Math operators
- User input/output
- Control and conditional statements
- Loops, iterations and nesting
- Boolean Algebra
- Lists
- Functions and user defined functions

Mathematical Topics *(Students should aim to have a fundamental understanding of)*

- Arithmetic
- Order of operations
- Evaluating Expressions and equations
- Properties of equalities and inequalities
- Solving algebraic equations and linear equations having one or two variables
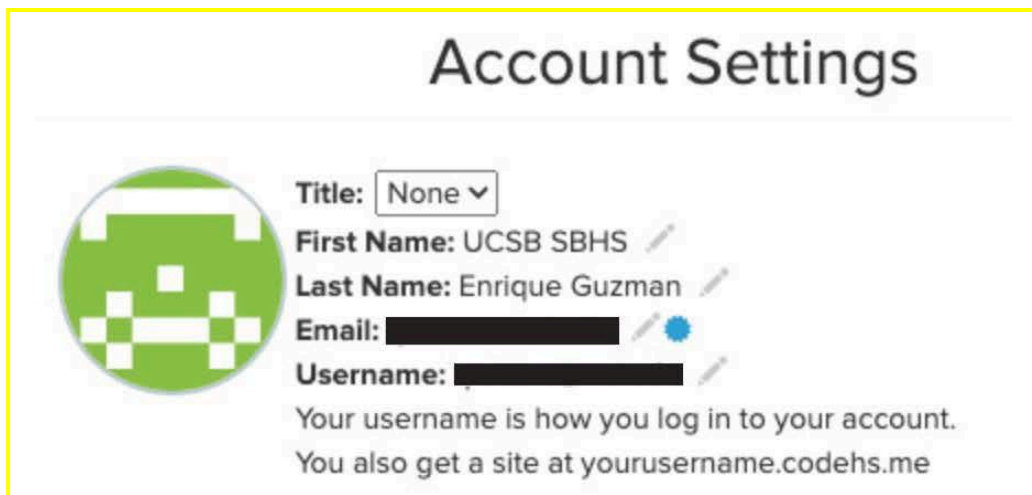
Resources

- https://www.sololearn.com/learn/courses/python-introduction
- https://www.w3schools.com/python/default.asp
- https://www.learnpython.org/

<u>MESA Day Python Course</u>

Enrolling Instructions

When enrolling in CodeHS, EACH team member **<u>MUST</u>** include their **MESA CENTER and SCHOOL** in their registration. See below for example:

- **First name field:** Abbreviated MESA Center and School Name
- **Last name field:** Student's First and Last Name

Course Links

Courses have been created to match the MESA region your host center is affiliated with. Please register for your appropriate course:

Northern/Central California: For students affiliated with Ukiah, RISE, CSU East Bay, San Jose State, University of the Pacific, UC Davis, UCSF, Fresno State, UCSC

Northern/Central Region: https://codehs.com/go/7C60B
Enrollment Code: 7C60B

Los Angeles / Central Coast: For students affiliated with USC, UCSB, UCLA, CSULB, CSULA

LA/Central Coast Region: https://codehs.com/go/480E8
Enrollment Code: 480E8

Southern California: For students affiliated with UCI, UCR, Imperial Valley, San Diego State University

South Region: https://codehs.com/go/282FA
Enrollment Code: 282FA

SPECIFICATION AND SCORE SHEET FOR CODING SOLUTIONS
High School

MESA Center: _____ Student 1: _____ Grade: _____

School: _____ Student 2: _____ Grade: _____

Division: ☐ Novice ☐ Experienced

Specification Criteria

☐ 2024-2025 rules were followed

☐ One Program is properly labeled and commented within coding project with team members' names, grade level, school, and MESA center:
(10% penalty if not properly labeled)

☐ All team members completed at least 60% (Novice) or 90 % (Experienced) of MESA Day course assignments

☐ Account name follows naming convention. If not, ineligible for award consideration.

☐ Program submission will be under the following team member's account:

☐ _____

Judging Criteria

Project Submissions:	Debugging #1	Debugging #2 *(Experienced level only)*	Technical Challenge
Time of final Submission:	: :	: :	: :
Case #1	Pass | No Pass	Pass | No Pass	Pass | No Pass
Case #2	Pass | No Pass	Pass | No Pass	Pass | No Pass
Case #3	Pass | No Pass	Pass | No Pass	Pass | No Pass
Case #4	Pass | No Pass	Pass | No Pass	Pass | No Pass
Case #5	Pass | No Pass	Pass | No Pass	Pass | No Pass
	Total Pass:	**Total Pass:**	**Total Pass:**

Total # of Ps X 10 =		Debug Sub score:	Technical Subscore:	Labeling Penalty *(10%)*	Grand Total
		+	+	-	=