MESA DAY CONTEST RULES 2022-2023
(DRAFT)

Coding Solutions (Online)

LEVEL: High School (HS)

DIVISION(S): Grades 9-12 (combined)

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 Metro/UC Santa Barbara, and Southern)

SPONSORS: UC Santa Barbara 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 would like to test your knowledge virtually on programming fundamentals and problem solving skills using the Python 3 programming language. Students should be familiar with basic elementary 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 online for 2022-2023.

MATERIALS:
- An internet connected device with a keyboard is recommended.
- Students must create their own account on Code HS (see Regional links on page 3)

GENERAL RULES:
1) Students must have their full name(s), grades, school, and MESA center commented at the top within each of the programs. A 10% penalty in the score will be assessed for failing to properly label.
2) This competition will have two challenges to be completed during a 60-minute window. **The Debugging challenge must be completed first** for the Technical Challenge to be valid.
   a. The Debugging challenge (50 points):
      i. Students will debug a program. In other words, students will correct code to get the program working again.
         - Sample output/test cases will be provided but are not indicative of all the test cases (including edge case) used for final scoring.

      ii. Teams will be awarded 10 points for each test case their submission passes. There will be 5 hidden test cases.

   b. The Technical Challenge (50 points):

      i. Students will create a program that creates the desired output based on the prompt provided.

      ii. Teams will be awarded 10 points for each test case their submission Passes. There will be 5 hidden test cases.

3) To be eligible to compete in this competition all team members must have completed at least 60% of MESA Day Python Course Assignments on the specified CodeHS course (see "Enrollment Links" attachment/appendix) one week before the contest date.

JUDGING:

1) Teams will have one single 60-minute block to complete both the debugging and the technical challenge.
2) It is the responsibility of one team member to login, enroll and complete the specified competition "Course."
3) The challenges will be scheduled to be published to start and to end at a time and date specified by the hosting MESA Center.
4) Students will have 60 minutes to complete the following tasks:
   a. To debug the given program to get the desired outputs without radically altering the code (i.e., creating a new program from scratch).
   b. To create a program that would produce the desired output(s).
5) Teams may submit their completed programs as soon as they like or make revisions within the time block but their last submission for each challenge will be used to determine the winners.
6) The final submission will be the last project that was submitted before time runs out.
7) 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 both challenges.
      ii. Successfully submit programs that pass all debugging test cases and have the most test cases passed for the technical challenge.
      iii. Submit debugging programs that pass the most cases.
8) **TIEBREAKERS:** In an event of a tie, the team that submitted their final submission first takes priority.
9) If no teams are successful, no awards will be given.
10) All testing of code will occur within CodeHS.

AWARDS:

- 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
- Enrollment Links
- 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

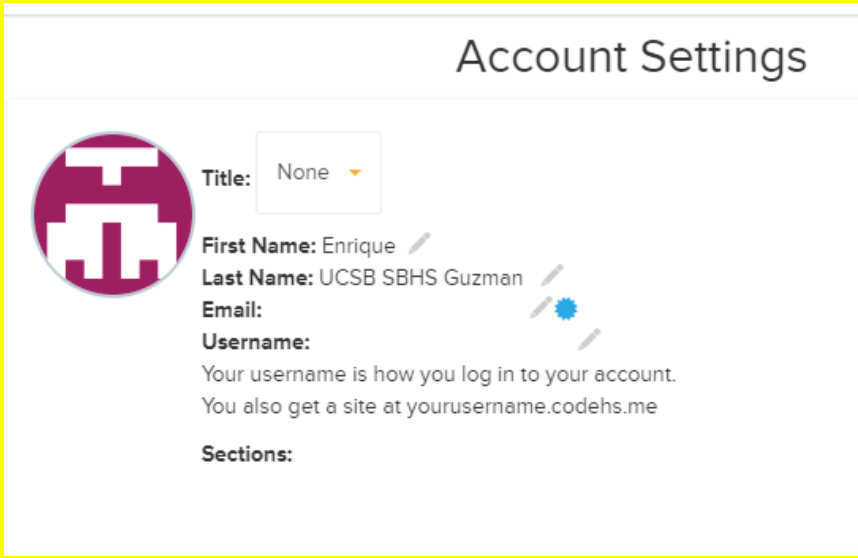## Mathematical Topics *(Students should aim to have a fundamental understanding of)*

- 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/Course/Python/
- https://www.w3schools.com/python/default.asp
- https://www.learnpython.org/

ENROLLMENT LINKS

When enrolling in CodeHS, please include your **MESA CENTER and SCHOOL** in your registration. See below for example:

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: TBA

Los Angeles Metro/UC Santa Barbara: For students affiliated with USC, UCSB, UCLA, CSULB, CSULA

      LA Metro/UC Santa Barbara Region: TBA

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

      South Region: TBA

SPECIFICATION AND SCORE SHEET FOR CODING SOLUTIONS
High School – Grades 9-12

MESA Center: _____ Student 1: _____ Grade: _____

School: _____ Student 2: _____ Grade: _____

- ❑ A) 2022-2023 rules were followed
- ❑ B) Each Program is properly labeled and commented within coding project with team members' names, grade level, school, and MESA center:
(10% penalty for each program if not properly labeled)
- ❑ C) All team members completed at least 60% of MESA Day course assignments
- ❑ D) Program submission will be under the following team members account:

_____

Project Submissions:	Debugging	Technical Challenge
Time of Final Submission:	: :	: :
Case #1	Pass | No Pass	Pass | No Pass
Case #2	Pass | No Pass	Pass | No Pass
Case #3	Pass | No Pass	Pass | No Pass
Case #4	Pass | No Pass	Pass | No Pass
Case #5	Pass | No Pass	Pass | No Pass
	Total Pass:	**Total No Pass:**

Total # of Ps X 10 =	Debug Sub score:	Technical Subscore:	Labeling Penalty	Grand Total
	+		=	