



MESA DAY RULES 2020-2021 (DRAFT)

Coding Solutions – Virtual

LEVEL:	High School
DIVISION(S):	HS / Grades 9-12
COMPOSITION OF TEAM:	1-2 individual(s) per team
NUMBER OF TEAMS:	Preliminary – Determined by your local MESA Center Regional – one team per Center
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 using the Python 3 programming language. **This competition is virtual for 2020-2021.**

MATERIALS:

- An Internet connected device with keyboard recommended
- Students must create their own account prior to competition and enroll in the MESA Day Course
- Once an account has been created students must enroll in the following course:
 - **To be announced**

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 is 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 test cases.
 - b. The Technical Test (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 test cases.
- 3) To be eligible to compete in this competition at least one individual in the team must have completed at least 60% of MESA Day Python Course Assignments on the specified **platform** one week before MESA Day.

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 the student(s) to log in and enroll in the appropriate “Course.”
- 3) The challenges will be scheduled to be published at **XX:XX** on **X date** (time and date to be determined).
- 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 time stamp to
 - i. Successfully submit programs that pass all test cases for both challenges.
 - ii. Programs that successfully pass all debugging test cases and has the most test cases passed for the technical challenge.
 - iii. The debugging programs that pass with the most cases passed.
- 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 the platform used.

AWARDS:

- Medals will be awarded for 1st, 2nd, and 3rd place based on the Final Score.
- Only 1st Place will advance to Regional/State MESA Day.

ATTACHMENTS/APPENDIX:

- Topics Student(s) Need to Know
- Resources
- Specification and Score Sheet

Topics Student Need to Know

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

Resources

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

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

MESA Center: _____ Student 1: _____ Grade: _____

School: _____ Student 2: _____ Grade: _____

Specification Criteria

- A) 2020-2021 rules were followed
- B) Program is properly labeled and commented within coding project with team members' names, grade level, school, and MESA Center:
(10% penalty in the Debug + Technical score if not properly labeled)
- C) At least one team member completed more than 60% of MESA Day course assignments
- D) Program submission will be under the following team members account:

Judging Criteria

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
	+	+	-	=