

TechFest v2.017 Competitive Event Playbook

Competition Title: Coding Challenge

Competition Sponsor: Raytheon

Competition Summary: Teams of up to four students will put their logical wits to the test to solve a series of competitive coding challenges, using whatever means necessary!

Competition Details: Teams can solve the contest problems by any means necessary. However, the amount of data to process will be daunting for anyone without programming skills. Any programming language is allowed, any hardware is allowed, any and all reference materials are allowed. Asking for help is allowed.

Teams must bring their own development systems. Power outlets are limited, so top off your battery before the contest.

You will receive the Contest problems on a USB flash drive and return your output to the judges on the same drive. Judges will return the flash drives after copying the submitted solutions. Teams may resubmit problem output as often as necessary.

Contest Problems

Contest problem descriptions, problem inputs, and problem output are all text files.

Your submitted files may use lines separated by Windows conventions (CR LF, 0x0D 0x0A), Unix conventions (LF, 0x0A), or Mac conventions (CR, 0x0D).

The contest problem solutions will be judged by a script that compares the submitted output file to a reference output file. The standard UNIX command "DIFF -w -B" will do the actual comparison, so code your programs accordingly.

Sample problems and the contest judging script are available online at <https://github.com/jghafa/contest>

How to Compete in the Programming Contest

1. Sign up for TechFest at <http://www.neitechfest.com/>
2. Show up for TechFest with a device that can read and write text files to a USB flash drive.
3. Get your official team name from the contest judges. You'll need this to identify your answer files.
4. Get the problems from a judge. They will be on a USB flash drive.
5. Open one of the problem files. Choose wisely as the problems each have their own score value. First team to finish a problem scores triple points for that problem, and the second team to solve that problem scores double.

6. Read and understand the problem description. Here's a sample problem description for problem 00: [Problem-00.txt](#)
7. Write a program that meets the requirements of the problem description. If input is needed, the input will be a text file named Input-00.txt.
8. Name your answer text file's name with this pattern: "00-Team A.txt". The first two characters indicate the problem number. The characters between the "-" and the ".txt" indicate your the team name.
9. Get your team name right and keep it consistent. Our grading software automatically assigns points to the team name. Keep submitting your output file until you get it correct.

School Points Awarded for Gold, Silver, Bronze: 5,000, 3,000, 1,000 points, respectively

Scoring Rubric: Each contest problem will have a base score and more difficult problems will score higher. The first team with the correct solution scores triple the base score, the second scores double, and all subsequent correct answers get the base score. Teams may resubmit problems as often as is needed to get a correct answer. The time of submittal is determined by the time stamp of the solution file when copied to the judge's computer. If you resubmit a correct answer, the time of the last submittal will be used. Submitting a solution with malware anywhere on the media will disqualify the team.

Materials/Supplies Required: One USB thumb drive and one laptop (minimum)

Information to be provided to competing teams: Basic instructions at the time of the event.

Pre-Work Required: None, but there are suggestions listed above that may be helpful to review.