



Level 0x0b

Code Quest Academy

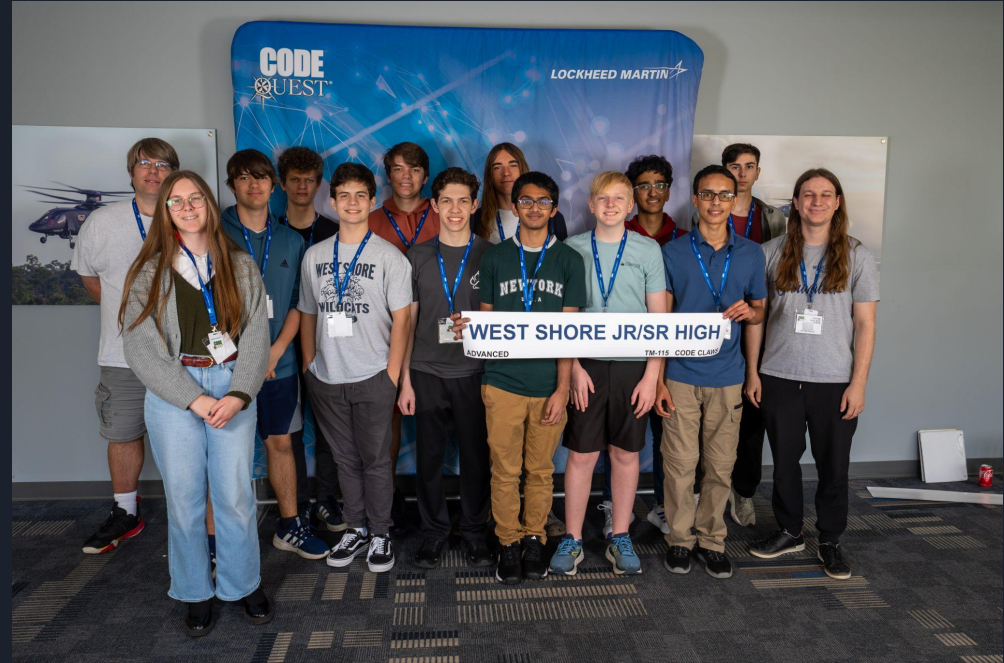


Topics

- Events
- Hacker History
- Internetz

Cyber Quest and Code Quest

- Code Quest
 - Saturday, Feb 28th
 - Registration Nov 17th -
- Spring Break
 - March 23rd - 27th
- Cyber Quest
 - Saturday, March 28th
 - Registration Jan 5th -





Code Quest

LLM Ninjas	Team 2 Last Names
Parker W Zachary W Charles L	Nathan d W Ian B P Zunaira T
Wildcat New Blood	Wildcat Interns
Jasper B Kirin R Hope R	Sam S Eshan V Jay J

Code Quest

- Details
 - Saturday, February 28th, 9:00 - 1:30 ish
 - Teams are 2-3 students each, 4 teams max per school
 - 1 computer / laptop per team (one keyboard and one mouse too 😊)
 - No cell phones inside, no cameras (not even outside)
 - No buses, must provide your own transportation (they can't stay on site during the competition)
 - Breakfast and Lunch provided
- What you need to provide me
 - Team members and teams (team names)
 - Birthday (must be 11 yrs and older, middle-school officially allowed)
 - Citizenship (not related to ICE current politics, standard procedure for military contractors)
 - Return 2 Lockheed forms (Liability and Photo Release)
 - Return 1 school permission slip



Cyber Quest

- Details:
 - Saturday, March 28th, 9:00 - 1:30 ish
 - Teams are 3-5 students each, 4 teams max per school
 - Very large monitors discouraged
 - No cell phones inside, no cameras (not even outside)
 - No buses, must provide your own transportation (they can't stay on site during the competition)
 - Breakfast and Lunch provided
- What you need to provide me
 - Team members and teams (team names)
 - Birthday (must be 14 yrs and older)
 - Citizenship (not related to ICE current politics, standard procedure for military contractors)
 - Return 2 Lockheed forms (Liability and Photo Release)
 - Return 1 school permission slip



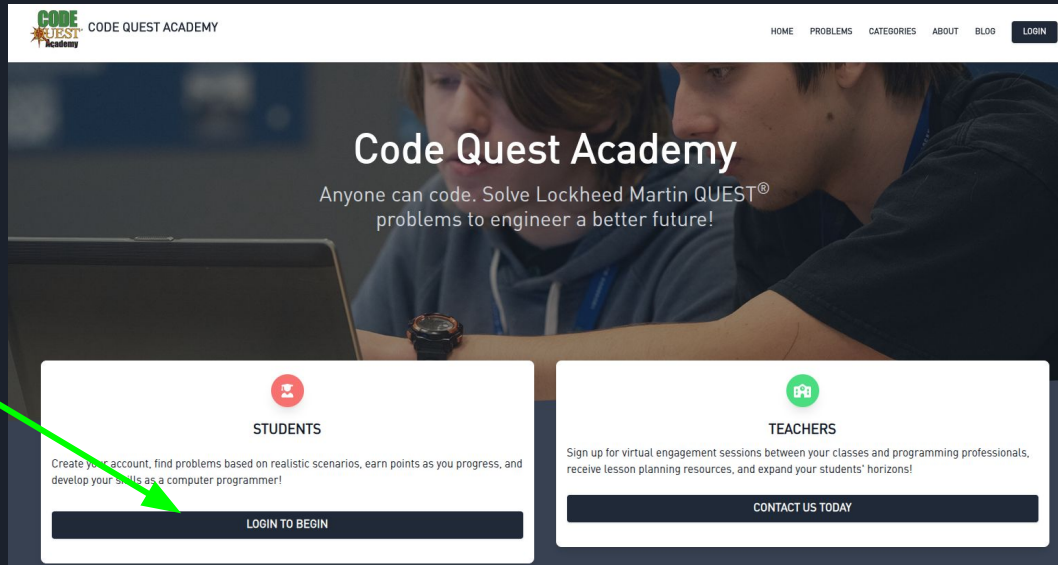
Code Red Worm(s)



- July 2001 - Code Red (named after the drink by researchers)
 - Exploited MS Windows IIS web servers for Windows NT and Windows 2000 Pro, and XP (beta)
 - Defaced servers ("HELLO! Hacked by Chinese!")
 - Randomly searched for other IIS servers on internet
 - DDOSes whitehouse.gov
 - Bug already had a patch from Microsoft, but nobody installed patch
 - v1 seed PRNG with a constant, attacked the same system over and over instead of properly spreading
 - Spread so fast that you couldn't patch before being attacked ([350,000 machines in 12 hours](#))
- August 2001 - Code Red II (named after string in binary)
 - Installed a trojan backdoor after infecting
 - Anytime explorer.exe was run...
 - Exposed C: and D: to the internet, allowed further writing to them
 - Even Microsoft themselves got infected by this
- Ended port 80 access for home users

Code Quest Academy

- [Imcodequestacademy.com](https://codequestacademy.com)
- Create a student account



Dashboard

Continue Your Quest

Filter Problems:

Difficulty Level

Solution Status



Hello World



Practice



Not Started

Not So Self-Driving



Practice



Not Started

Addiply



Easy



Not Started

AEIOU



Easy



Not Started

AI Robot



Easy



Not Started

Anagram Checker



Easy



Solved

Animal Farm



Easy



Not Started

Anti-Asteroid Weapon



Easy



Not Started

Are You A Spy



Easy



Not Started

Around and Around



Easy



Not Started

Autocorrect



Easy



Solved

Batter Up



Easy



Not Started

Bigger is Better



Easy



Not Started

Brick House



Easy



Not Started

By the Book



Easy



Not Started

Caught Speeding



Easy



Not Started

Change for the World



Easy



Not Started

Charlie Quebec



Easy



Not Started

Chinese Zodiac



Easy



Not Started

Collatz Conjecture



Easy



Not Started

Problem Count: 277

1 2 3 ... 13 14

Dashboard

Filter Dashboard

Problems Solved
10

Problems Attempted
13

Problems Incorrect
3

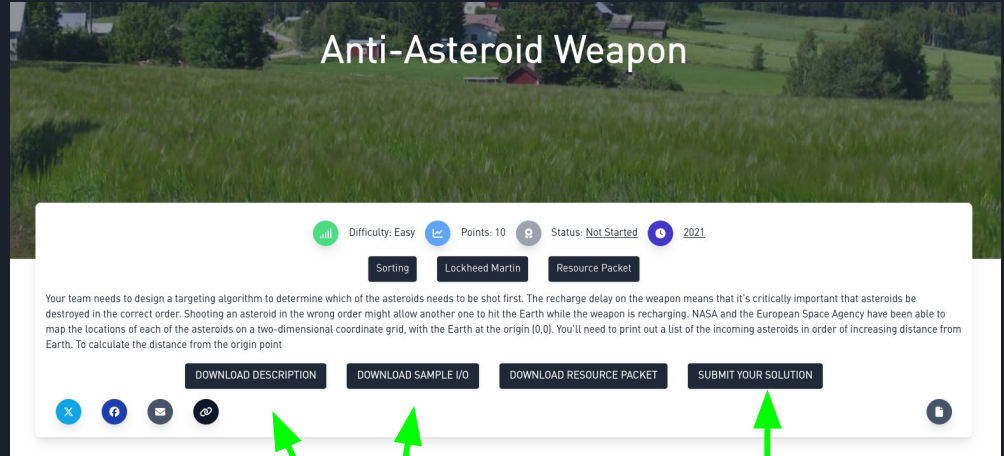
Problems Not Attempted
264

Total Points
160

Achievements Earned
5

Problem Page

- Download problem description (PDF)
- Download sample input and output (.zip)



The screenshot shows the 'Anti-Asteroid Weapon' problem page. The title 'Anti-Asteroid Weapon' is displayed in large white text over a background image of a green field. Below the title, there is a white box containing the problem details. At the top of this box, it says 'Difficulty: Easy', 'Points: 10', 'Status: Not Started', and '2021'. Below this, there are three buttons: 'Sorting', 'Lockheed Martin', and 'Resource Packet'. The main text of the problem is: 'Your team needs to design a targeting algorithm to determine which of the asteroids needs to be shot first. The recharge delay on the weapon means that it's critically important that asteroids be destroyed in the correct order. Shooting an asteroid in the wrong order might allow another one to hit the Earth while the weapon is recharging. NASA and the European Space Agency have been able to map the locations of each of the asteroids on a two-dimensional coordinate grid, with the Earth at the origin [0,0]. You'll need to print out a list of the incoming asteroids in order of increasing distance from Earth. To calculate the distance from the origin point'. Below the text, there are four buttons: 'DOWNLOAD DESCRIPTION', 'DOWNLOAD SAMPLE I/O', 'DOWNLOAD RESOURCE PACKET', and 'SUBMIT YOUR SOLUTION'. At the bottom of the white box, there are social media icons for Twitter, Facebook, Email, and a link icon. A green arrow points to the 'DOWNLOAD DESCRIPTION' button, another green arrow points to the 'DOWNLOAD SAMPLE I/O' button, and a third green arrow points to the 'SUBMIT YOUR SOLUTION' button.

Extracting Sample Input and Output

```
mwales@Metroid:~/checkouts/security-private/code_quest/21/anti-asteroid-weapon$ mv ~/Downloads/anti-asteroid-weapon-samples.zip ./
mwales@Metroid:~/checkouts/security-private/code_quest/21/anti-asteroid-weapon$ ls
anti-asteroid-weapon-samples.zip
mwales@Metroid:~/checkouts/security-private/code_quest/21/anti-asteroid-weapon$ unzip anti-asteroid-weapon-samples.zip
Archive:  anti-asteroid-weapon-samples.zip
  inflating: 1.in
  inflating: 1.ans
mwales@Metroid:~/checkouts/security-private/code_quest/21/anti-asteroid-weapon$ cat 1.in
2
3
2 1
1 1
5 5
4
2 2
1 7
-1 0
1 1
mwales@Metroid:~/checkouts/security-private/code_quest/21/anti-asteroid-weapon$ cat 1.ans
1 1
2 1
5 5
-1 0
1 1
2 2
1 7
```

Code your solution

- Choose one of the following weapons
 - Python (3.9.16)
 - Java (OpenJDK 17)
 - C++ (g++)
 - C# (mono 6.8)
- Pick an IDE (make sure this works offline / with poor internet connection)
 - Visual Studio Code
 - Eclipse 🤨
 - Vim / Emacs / nano
- Read input on stdin
- Write output on stdout

```
#!/usr/bin/env python3

num_tc = int(input())

for tc_i in range(num_tc):
    num_asteroids = int(input())
    dist_list = []
    for ast_i in range(num_asteroids):
        ast_data = input()
        ast_parts = ast_data.split(" ")
        x = int(ast_parts[0])
        y = int(ast_parts[1])

        dist_val = x * x + y * y

        dist_list.append( (dist_val, ast_data) )

    dist_list.sort()

    for dist, ast in dist_list:
        print(ast)
```



Upload your solution

Upload Solution

Select the file containing the source code of your solution. Only one file may be uploaded. The website will compile your program and run it twice; once using the sample input you have been provided, and once with a larger, secret input file. If your program produces the correct output for both inputs, you've solved this problem! Solutions may take up to five minutes to run.

SELECT FILE

solve.py

Python

UPLOAD SOLUTION

CANCEL

Did it work?

- Wait a little bit, then refresh your problem page
 - Solved
 - Wrong Answer
 - Judging in Progress
- What you don't get:
 - Feedback / errors

Anti-Asteroid Weapon

Difficulty: Easy Points: 10 Status: **Solved** 2021

Sorting Lockheed Martin Resource Packet

Your team needs to design a targeting algorithm to determine which of the asteroids needs to be shot first. The recharge delay on the weapon means that it's critically important that asteroids be destroyed in the correct order. Shooting an asteroid in the wrong order might allow another one to hit the Earth while the weapon is recharging. NASA and the European Space Agency have been able to map the locations of each of the asteroids on a two-dimensional coordinate grid, with the Earth at the origin $[0,0]$. You'll need to print out a list of the incoming asteroids in order of increasing distance from Earth. To calculate the distance from the origin point

DOWNLOAD DESCRIPTION DOWNLOAD SAMPLE I/O DOWNLOAD RESOURCE PACKET SUBMIT YOUR SOLUTION

Twitter Facebook Email LinkedIn



Your quest

- Register at Code Quest Academy
- Pick a super easy problem
- Pick a language and toolset you (and your team) can be comfortable with
 - Is it easy to use on the platform you will have for Code Quest
 - Can you easily give it standard input from another file
 - Required by Code Quest judging framework
 - Makes it fast for you to test if it is working
 - Can you debug your code easily in this tool
 - Interactive debugger / step through code
 - Add more print statements to the code



Links

- <https://www.caida.org/archive/code-red/>
- <https://lmcodequestacademy.com/>
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