

MadHacks 2025 Jane Street Estimathon®

11.22.2025

Andrew Moses x MadHacks

Welcome



In your teams, you'll have just around 45 minutes to complete 12 estimation problems. The answer to each question we'll give is a positive real number. Your team will submit intervals for each problem, which (ideally) contain the specified quantity. An interval is “good” if it contains the true value.

We'll use the following formula to grade you:

$$\left(10 + \sum_{\text{good intervals}} \left\lfloor \frac{\text{max}}{\text{min}} \right\rfloor \right) \times 2^{12 - \# \text{ of good intervals}}$$

You can submit ranges as large as you'd like – keep in mind, however, that the larger the bounds, the more you'll be penalized. However, it's still better to submit a correct answer than to submit an incorrect one, so punt on difficult questions!

You may not use the internet or any kind of artificial intelligence assistance on these questions.

What do the winners get...? Who knows!

Maybe there's something more important than winning...

Questions



1. Let's start easy. How many distinct permutations are there of the string ESTIMATHON?

```
>>> [''.join(i) for i in itertools.permutations("hey")] # A reminder  
['hey', 'hye', 'ehy', 'eyh', 'yhe', 'yeh']
```

2. How many digits are in $2025!$?
3. How many people have walked on the moon?
4. How many copies of *Minecraft* have been sold (in millions)?
5. How many followers does Elon Musk currently have on on Twitter/X?
6. What is the current number of top-level domains in the IANA root database? (.com, .gov, .uk, .apple ...)
7. How many students at UW-Madison have received an A in MUSIC 62 since Fall 2006?
8. How many times have I listened to the *Radiohead* song “Spectre” since July 29th, 2024?
9. What is the sum of the number of people who we scanned for lunch and dinner at MadHacks today?
10. What is the highest speed limit in the United States (in miles per hour)?
11. How many 1s are in the binary representation of $0xF24E1C$?
12. What number (from 1 to 100) was I thinking of when I wrote this question?

Time's up!



Give me a minute to tabulate...

Answers



1. Let's start easy. How many distinct permutations are there of the string ESTIMATHON?

- Answer: 1,814,400

2. How many digits are in $2025!$?

- Answer: 5,819

3. How many people have walked on the moon?

- Answer: 12

4. How many copies of Minecraft have been sold (in millions)?

- Answer: 350

5. How many followers does Elon Musk currently have on on Twitter/X?

- Answer: 229.1

Answers (ii)



6. What is the current number of top-level domains in the IANA root database? (.com, .gov, .uk, .apple dots.h.c)
 - Answer: 1,438
7. How many students at UW-Madison have received an A in MUSIC 62 since Fall 2006?
 - Answer: 2,314
8. How many times have I listened to the Radiohead song “Spectre” since July 29th, 2024?
 - Answer: 114
9. What is the sum of the number of people who we scanned for lunch and dinner at MadHacks today?
 - Answer: 591
10. What is the highest speed limit in the United States (in miles per hour)?
 - Answer: 85

Answers (iii)



11. How many 1s are in the binary representation of 0xF24E1C?

- Answer: 12

12. What number (from 1 to 100) was I thinking of when I wrote this question?

- Answer: 23

Winners



ALL OF YOU!

Thank you for showing up to the event! I hope you had a fantastic time!

We have Jane Street T-Shirts (while in supply), and everyone gets one! Wahoo!