

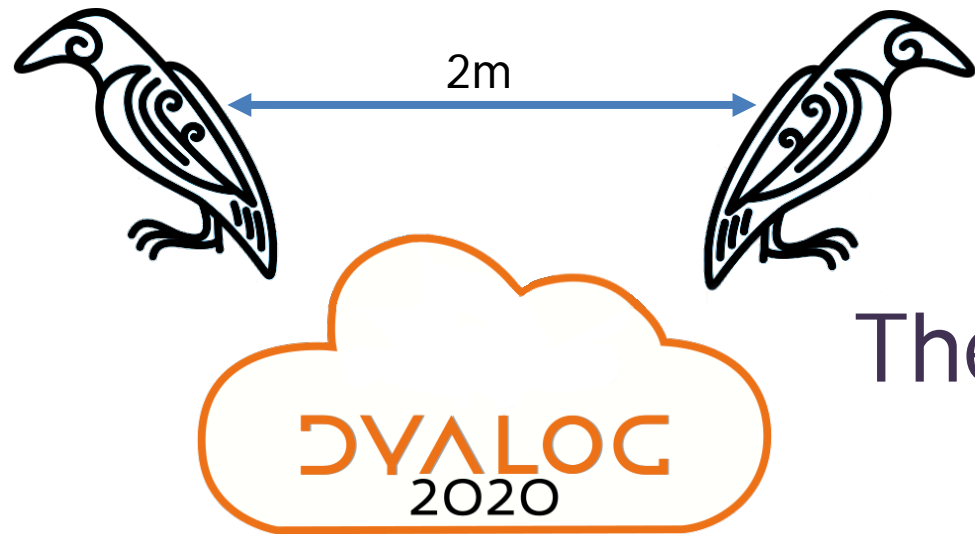


DYALOG

2020

# The 2020 APL Problem Solving Competition

*Brian Becker*



DVALOC

2020

# The 2020 APL Problem Solving Competition

*Brian Becker*

# Thank you!

- ◆ Our Sponsors
- ◆ Beta Testers
- ◆ Mike Powell
- ◆ Kattis ([open.kattis.com](https://open.kattis.com))
- ◆ The Team

 **SimCorp**  
**Tegra118**   
**Anonymous**



Fiona



Adám



Richard



Michael



Jason



Gitte

# Our 12<sup>th</sup> Year (and counting...)

- ◆ Second year using our self-hosted MiServer-based website - [contest.dyalog.com](https://contest.dyalog.com)
- ◆ Ten Phase 1 Problems
  - ◆ One-liners with interactive validation



# Our 12<sup>th</sup> Year (and counting...)

- Second year using our self-hosted MiServer-based website - [contest.dyalog.com](https://contest.dyalog.com)
- Ten Phase 1 Problems
  - One-liners with interactive validation
- Nine Phase 2 Problems
  - Generally more complex problems
  - Solve at least one to qualify for prize consideration

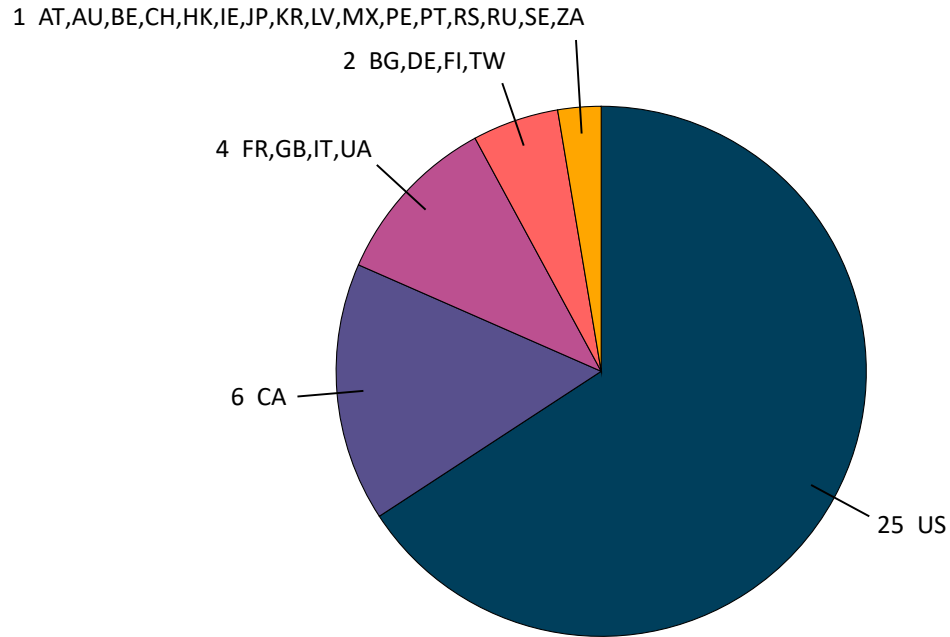
## Phase 2 Domains

- Bioinformatics
- Finance
- Information Retrieval
- Text Processing
- Algorithm Development
- Recreational Computing

# Some Statistics...

- Where were the participants from?

## 71 Participants in 26 Countries

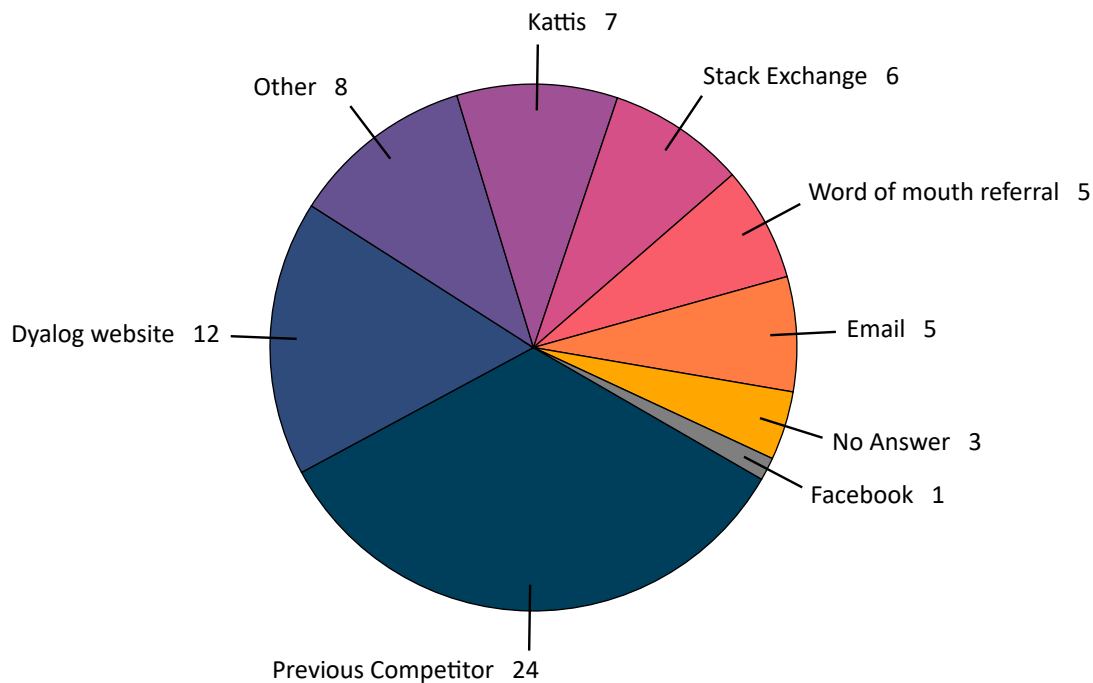




# Some Statistics...

- ◆ Where were the participants from?
- ◆ How did they hear about the competition?

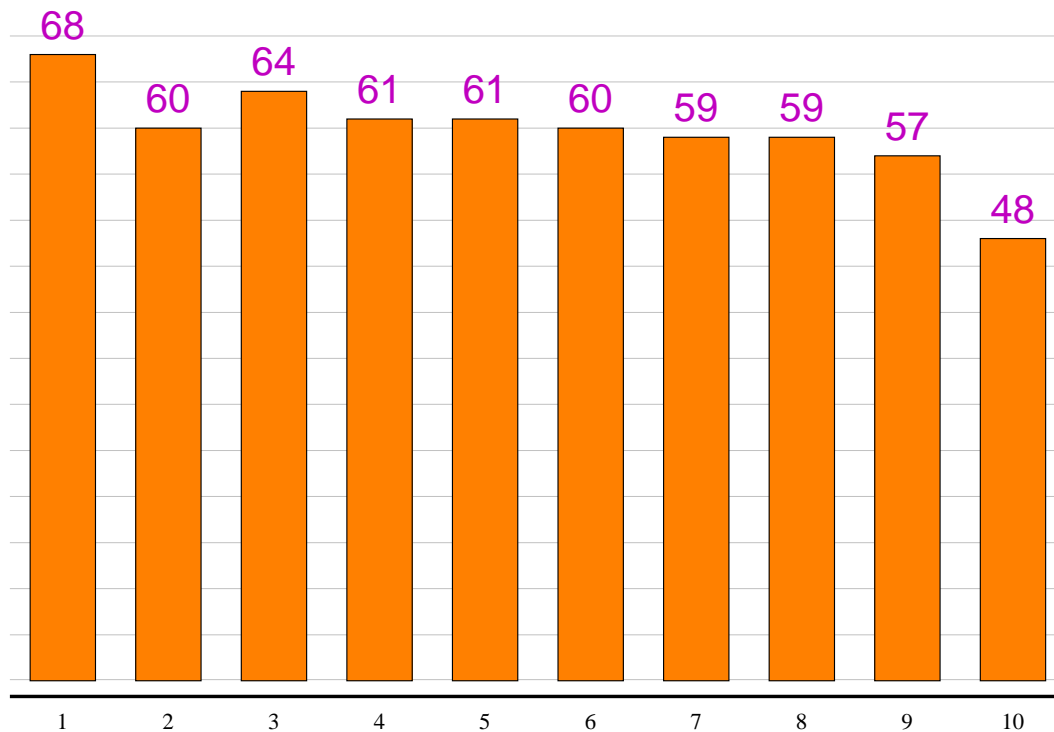
## How did you hear about the competition?



# Some Statistics...

- Where were the participants from?
- How did they hear about the competition?
- 2019
  - 68 people submitted 478 correct Phase 1 solutions (~48/problem)
  - 25 Phase 2 submissions
- 2020
  - 71 people submitted 597 correct Phase 1 solutions (~60/problem) (+25%)

## Solutions by Problem



+25%)



# Some Statistics...

- Where were the participants from?
- How did they hear about the competition?
- 2019
  - 68 people submitted 478 correct Phase 1 solutions (~48/problem)
  - 25 Phase 2 submissions
- 2020
  - 71 people submitted 597 correct Phase 1 solutions (~60/problem) (+25%)
  - 40 Phase 2 submissions (+60%)



# Reactions

So badass contest, I even can't describe!

I really enjoyed this competition. I think it is a great way to learn APL.

Phase I was just beautifully presented, and phase II had interesting, reasonably hard challenges.

I really enjoyed participating in the contest because the problems had connections to the real world, and the few that didn't were just as engaging. I also liked how diverse the problems were...

The challenges were super fun! This is by far the largest amount of code in APL that I have written. In the process, I discovered many aspects of APL I enjoy (the interactivity, natural data manipulation).

I really enjoyed this competition even if I've never studied informatic and I started using APL only in February. **It also gave me something to do during this quarantine.** I think you did a great job with this competition and I don't know what you could have done better. I'll certainly take part in the next year competition.

This competition was fun and it was helpful to practice the use of the APL primitives. I highly recommended it to some friends and work colleagues and I really hope that at least one of them will participate. Thank you all who organized this competition, you could not have done better!

I really liked this year. It was probably my favourite of the years I have entered.



# Get Involved!

- ◆ Oh boy, do we want your problems!
  - ◆ Contact me ([brian@dyalog.com](mailto:brian@dyalog.com)) for guidelines
- ◆ Encourage and refer students to participate
  - ◆ If someone you refer wins a cash prize, you get the equivalent
  - ◆ \$3100 was given out in referral awards in 2020
- ◆ Spread the word
  - ◆ At local schools and universities
  - ◆ Previous Phase 1 and Phase 2 question sets are available on the Dyalog website
  - ◆ Richard Park has led an effort to put interactively-validated previous Phase 1 sets online at <https://problems.tryapl.org>
- ◆ Be a sponsor



# Crystal Ball Time

- Earlier start (1<sup>st</sup> quarter 2021)
  - We've been drafting candidate problems for months
- Revamped Phase 2
  - More like Phase 1 with interactive, basic validation
- Brian predicts...
  - 90+ Phase 1 participants (30+% growth)
  - 60+ Phase 2 participants (33+% growth)



# And the winners are...

- ◆ The full list of winners is available on the Dyalog website
- ◆ \$100 prizes to the top 10 Phase 1 participants
- ◆ \$200 prizes to 5 random Phase 2 participants
- ◆ 3<sup>rd</sup> Place \$750
  - ◆ Joshua King (University of New South Wales, Australia)
- ◆ 2<sup>nd</sup> Place \$1250
  - ◆ Dzintars Klušs (Riga State Gymnasium No. 1, Latvia)
- ◆ Top non-student entry wins a delegate package to Dyalog'21 in Portugal
  - ◆ Woosuk Kwak (South Korea)
- ◆ Grand Prize \$2500 and an expenses-paid delegate package to Dyalog'21
  - ◆ Andrii Makukha (University of Hong Kong, China)



# Please Welcome Andrii...