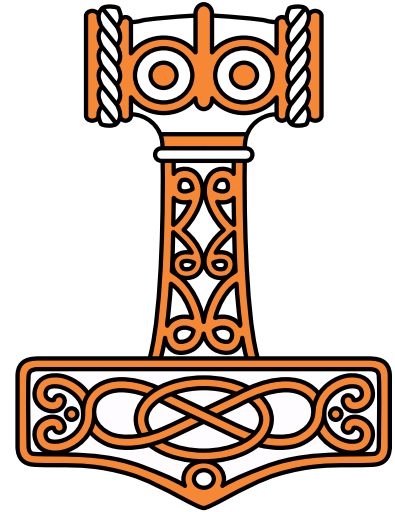


# DIALOG

Olhão 2022

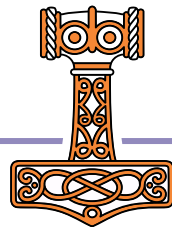
## 2022 APL Problem Solving Competition

*Brian Becker*



# 14 Years? Really?

- ◆ Fourth year running self-hosted
  - ◆ MiServer-based website – [contest.dyalog.com](https://contest.dyalog.com)
- ◆ Two Phases
  - ◆ Ten Phase 1 Problems
    - ◆ One-liners with interactive validation
  - ◆ Six Phase 2 Problems (12 Tasks)
    - ◆ Generally more complex problems
    - ◆ Basic interactive syntax checking

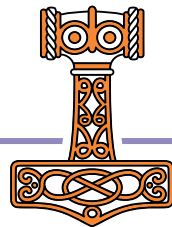


# contest.dyalog.com

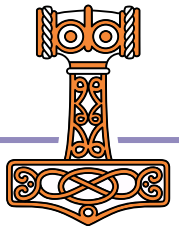
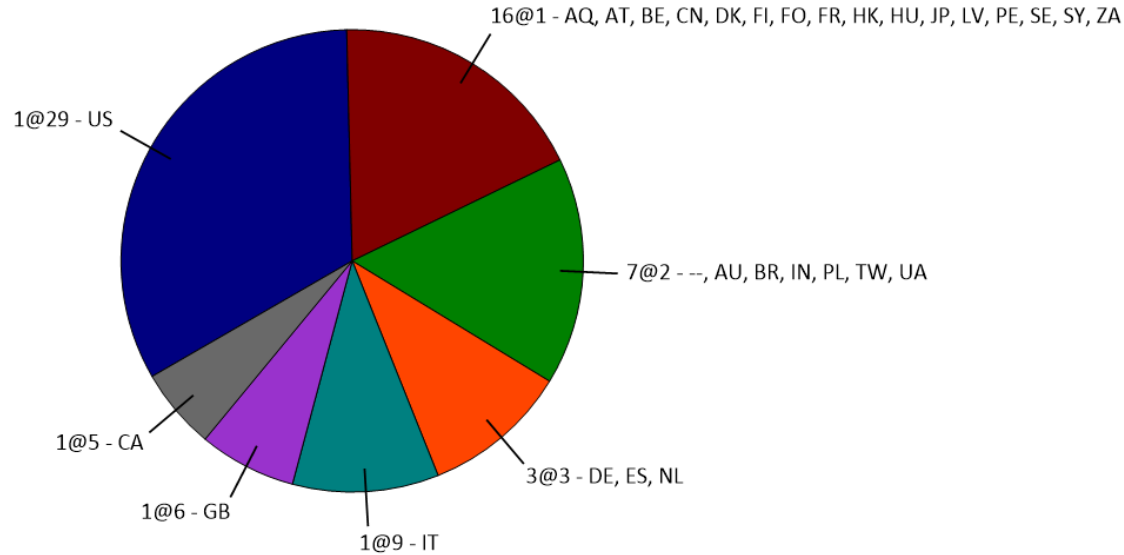
- Standard "off the shelf" Docker dyalog/miserver container
  - Running MiServer v3.1 under Dyalog v18.0
  - Using Dyalog utilities
    - HttpCommand – remote system integration
    - Dyalog Cryptographic Library – password hashing
    - Conga – used by MiServer, HttpCommand, and SMTP
    - DrA – error logging
    - SQAPL – relational database access
    - SMTP – sending email
  - Plus
    - Adám's Safe Executor – safely test Phase 1 submissions in real time

## Industry Standard

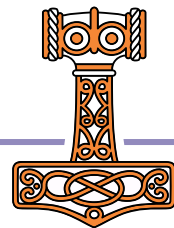
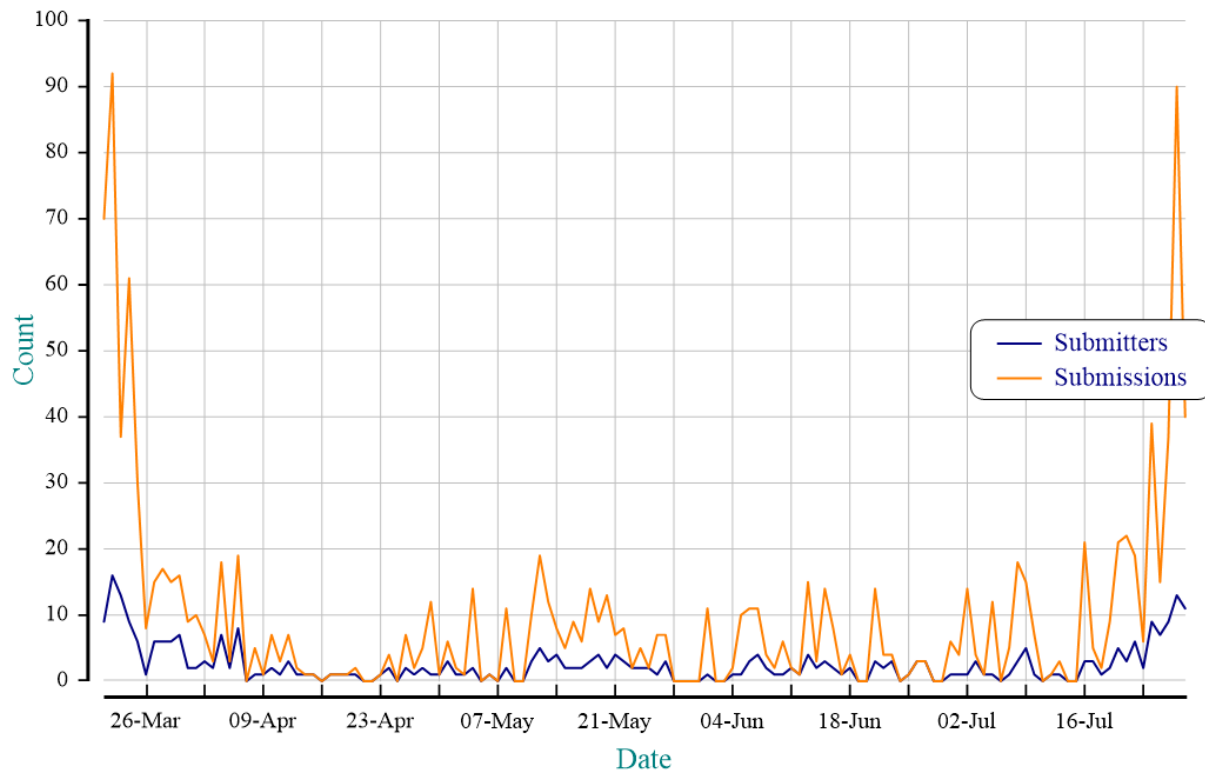
- Docker
- Git/GitHub
- Jenkins
- Rancher
- HAProxy
- reCAPTCHA



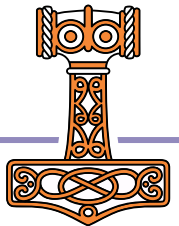
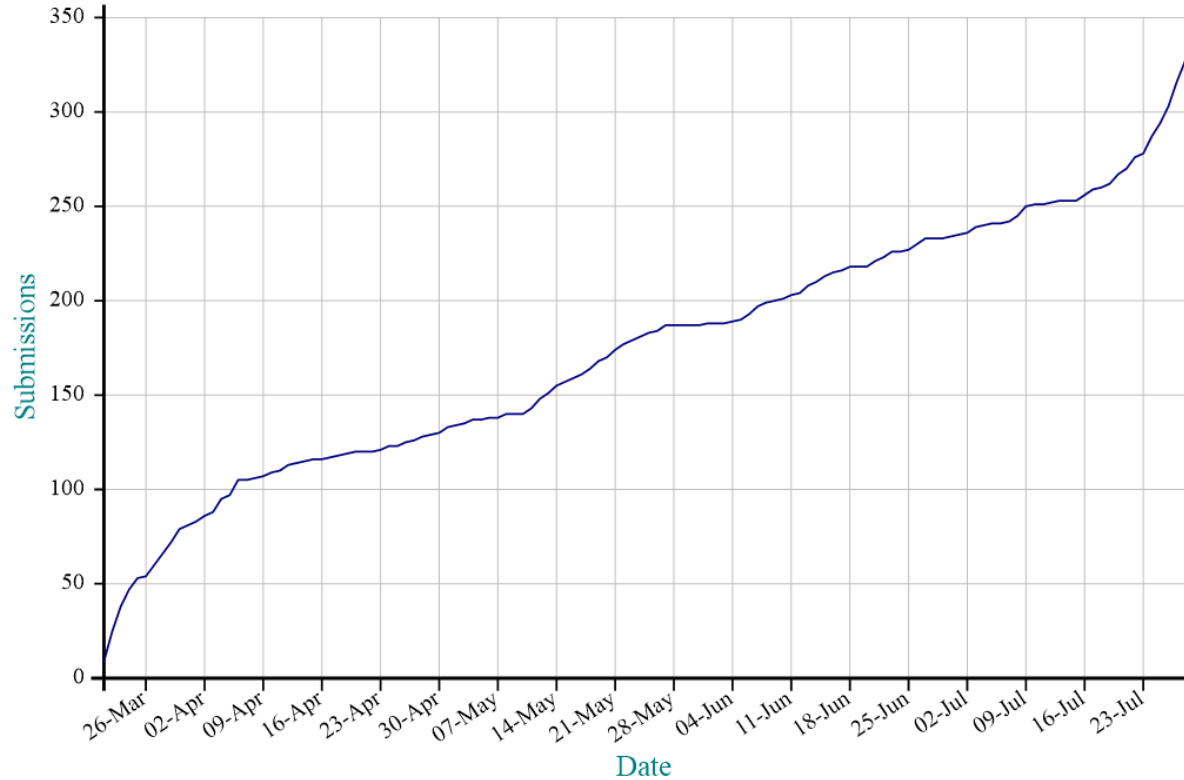
# 88 Participants in 30 Countries



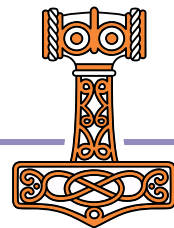
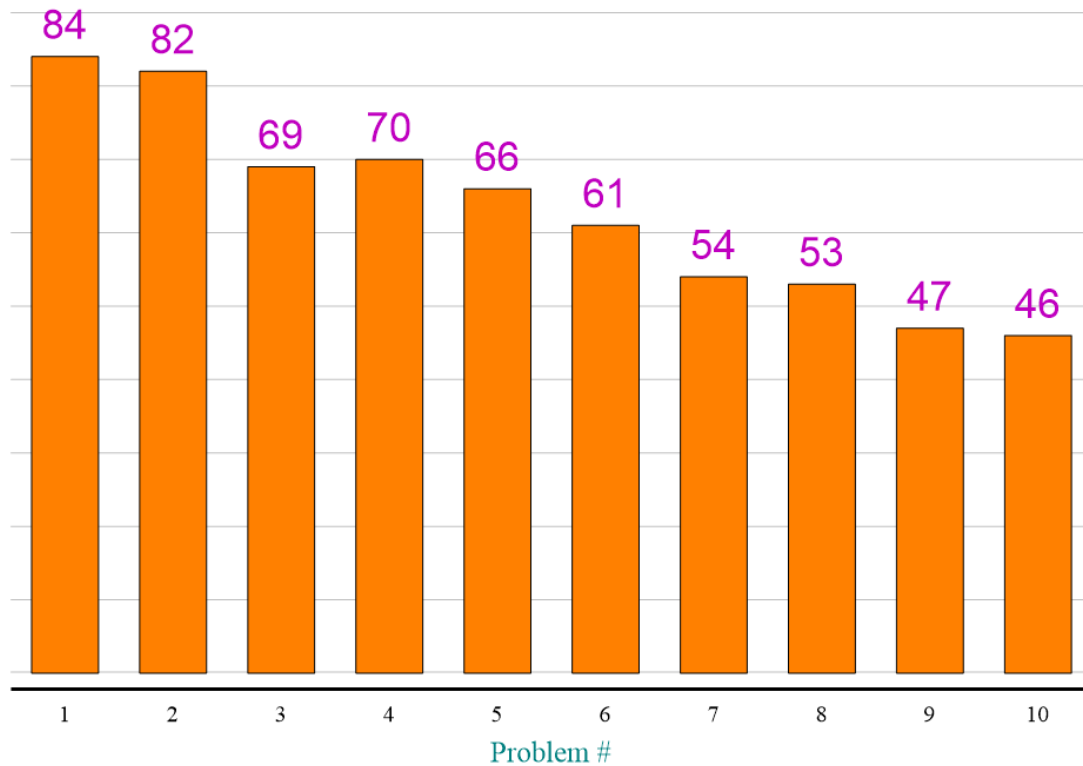
## Submissions and Submitters by Date



# Cumulative Solutions Submitted

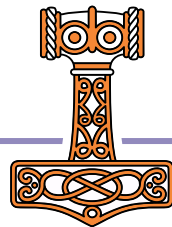


## Phase 1 Solutions by Problem #



# Selected Phase 1 Feedback

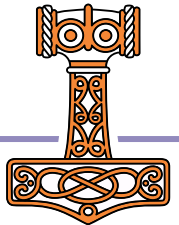
- ◆ Really nice thematic puzzles! Struggled more with the edge cases than the problem itself, but that might also be my lack of experience.
- ◆ A nice, varied set. A little bit harder than previous years, but that seems to be a consistent trend.
- ◆ The problems were a fun introduction to dyalog
- ◆ As usual, interesting problems had to be solved.
- ◆ Great one-liner problems





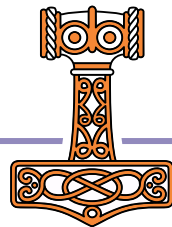
# Selected Phase 2 Feedback

- ◆ I thought it was interesting that not all problems were "slam dunk" APL aligned, thus giving a flavour of what solving real-world "boring" problems in APL is like.
- ◆ I liked the variety of problems that Phase 2 had.
- ◆ There was a good variety, and they ranged from easy to difficult. I felt that problem 6 wasn't array oriented at all, and it was a bit of a pain to work on (though I enjoyed doing it).
- ◆ I liked the fact that there were problems of different length and difficulty level. This helped me get started by picking the problems I felt most comfortable with.



# Be a Part of the Effort

- ◆ Submit problem ideas
  - ◆ Contact me ([brian@dyalog.com](mailto:brian@dyalog.com)) for guidelines
- ◆ Encourage and refer students to participate
  - ◆ If a student you refer wins a cash prize, you receive the same amount  
You can receive multiple referral awards
- ◆ Spread the word
  - ◆ At local schools and universities, computer clubs, friends, neighbors, random people on the street
  - ◆ Previous Phase 1 and Phase 2 problem 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
- ◆ Be a Beta Tester



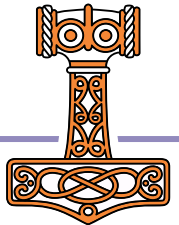
# Thank you!



Our Sponsors

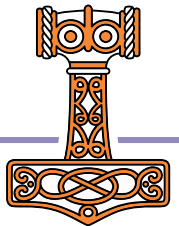


## Anonymous



# Thank you!

- Our Sponsors
- Beta Testers
- The Team



# And the winners are...

- The full list of winners is available on the Dyalog website
- 10 - \$100 prizes to the top Phase 1 participants
- 5 - \$200 prizes to random Phase 2 participants
- 3<sup>rd</sup> Place \$750
  - Dzintars Klušs - Rīgas Tehniskā Universitāte (Riga Technical University), Latvia
- 2<sup>nd</sup> Place \$1250
  - Rory Kemp – Edinburgh Academy, U.K
- Top non-student entry wins a delegate package to Dyalog'22
  - Michael Higginson, Canada
- Grand Prize \$2500 and an expenses-paid delegate package to Dyalog'22
  - Tsu-Ching Lee – National Tsing Hua University, Taiwan

