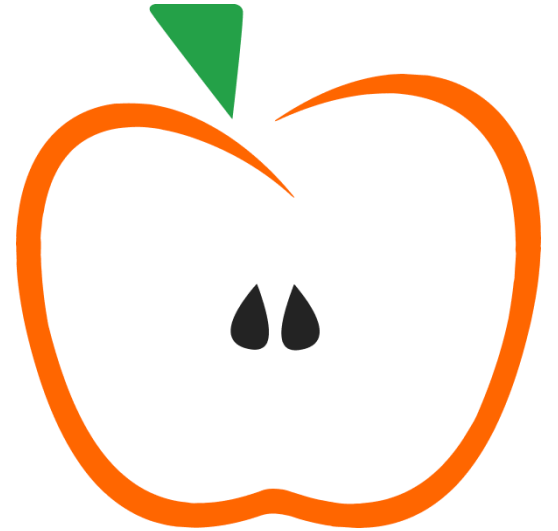


DYALOC

APL Seeds '24

Closing Session

Adám Brudzewsky



Continuing Your APL Journey

dyalog.com/getting-started.htm

[Home](#) >> [Learning](#) >> [Getting Started](#)

Getting Started

Getting started with any new programming language can seem like a daunting task, and the Dyalog application development platform ships with enough features that you might appreciate some guidance to help you get started. The resources on this page are free of charge and aimed at APL novices.



APL Seeds: Events aimed at those who are just starting their APL journey.

[APL Seeds '24](#) will be held on Wednesday 27 March 2024.

Download materials/recordings from: [APL Seeds '21](#) | [APL Seeds '22](#) | [APL Seeds '23](#)



Community

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Basics

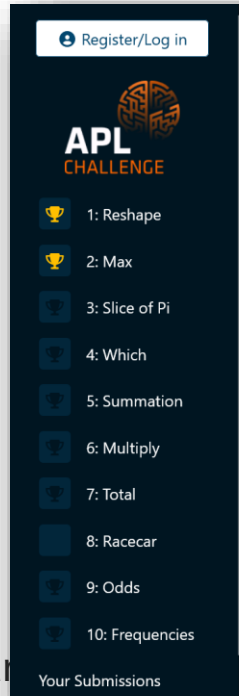
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Continuing Your APL Journey

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challenge.dyalog.com



The sidebar menu is dark-themed and contains the following elements from top to bottom:

- A button labeled "Register/Log in" with a plus icon.
- The "APL CHALLENGE" logo, featuring a stylized orange and black geometric design.
- A list of 10 challenge problems, each with a trophy icon and a number: 1: Reshape, 2: Max, 3: Slice of Pi, 4: Which, 5: Summation, 6: Multiply, 7: Total, 8: Racecar, 9: Odds, 10: Frequencies.
- A link labeled "Your Submissions".

Welcome to the APL Challenge!

The deadline for the current round (2024.1) is Tuesday 30 April 2024 at 23:59 UTC (Competition ends in 43 days).

The APL Challenge is a quarterly event where you use APL to solve up to ten problems. Each round runs for three months, after which [Dyalog Ltd](#) awards three USD 100 prizes, with your chances of winning increasing based on the number of correct entries you submit.

Don't know APL? APL is an array-oriented programming language that will change the way you think about problems and data. It takes a long time to learn enough to participate in the challenge. Many people have learnt APL by participating in past competitions – including [winners](#)! APL is [easy to learn](#) and will allow you to translate your knowledge into computer-based solutions, quickly and efficiently.

Don't have time? If you're interested but don't want to actively participate in this round, please register anyway so that we can notify you of updates and inform you about future rounds. You can opt out at any time.

Overview

The APL Challenge consists of 10 problems:

- 3 problems, each of which requires you to write an expression that uses a single APL primitive.
- 3 problems, each of which requires an expression with 2 or 3 primitives.
- 4 problems that are somewhat more complex, requiring you to write your own one-liner function.

Developing your solutions

[TryAPL](#) is sufficient for developing your solutions. A full desktop development environment is also available for common platforms as a [free download](#). Whichever environment you choose, you can produce APL symbols by clicking on them in the language bar above the input area.

When ready to test a solution, paste it into the input field at the bottom of the corresponding problem page and then hit (Enter). The system will now validate your solution. You can also type your solution directly into the input field.

Although you can begin without registering – most browsers will store your solutions until you register – you must be [registered](#) to view solutions.

Continuing Your APL Journey

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apl.quest

The screenshot shows a web browser interface for the Dyalog APL challenge website. At the top is a navigation menu with links for Home, Help, 2023, and 2022. Below the menu is a list of challenges, with '3: Uniquely Qualified' selected. The details for this challenge are displayed on the right, including a description, a hint, and examples of APL code.

Home
Help
2023
2022

1: Counting DNA Nucleotides?
2: Attack of the Mutations!
3: Uniquely Qualified
4: In the Long One...
5: Stairway to Heaven
6: Pyramid Scheme

3: Uniquely Qualified

Write a function that:

- takes right and left arguments that are arrays of arbitrary rank, depth, and value.
- returns a vector of all elements that appear in either of the two argument arrays but not in both. The order of elements in the result is not significant.

Hint: The *without* function $X \sim Y$ could be helpful.

Examples

```
'DIALOG' (your_function) 'APL'  
DYOGB  
'DIALOG' (your_function) c'APL'  
D Y A L O G A P L  
(2 2P'Hello'(c'World'))(2 2P'4)42) (your_function) 42
```

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challenge.dyalog.com

apl.quest

aplcart.info/quiz

Quiz me on:

Writing a function for a given task
Write a dyadic system function, `X YourFunction Ys`, that for any array `X` and any scalar `Ys`, solves the following easy task:
Merge members of namespaces `X` into namespace `Ys`
[Reveal code](#) [Next task...](#)

Explaining the purpose of a given function
What does the following monadic circular/trigonometric function compute when given a numeric array `N`?
 $(\div 1 \circ O)N$
[Reveal purpose](#) [Next function...](#)

Filling in an obscured symbol
What is the obscured symbol in the following monadic mathematical function:
 $(\iota \circ \neq \equiv \square \circ \Delta)N$
which when given a numeric array `N`, solves the task:
Is `N` Strictly Decreasing?

Continuing Your APL Journey

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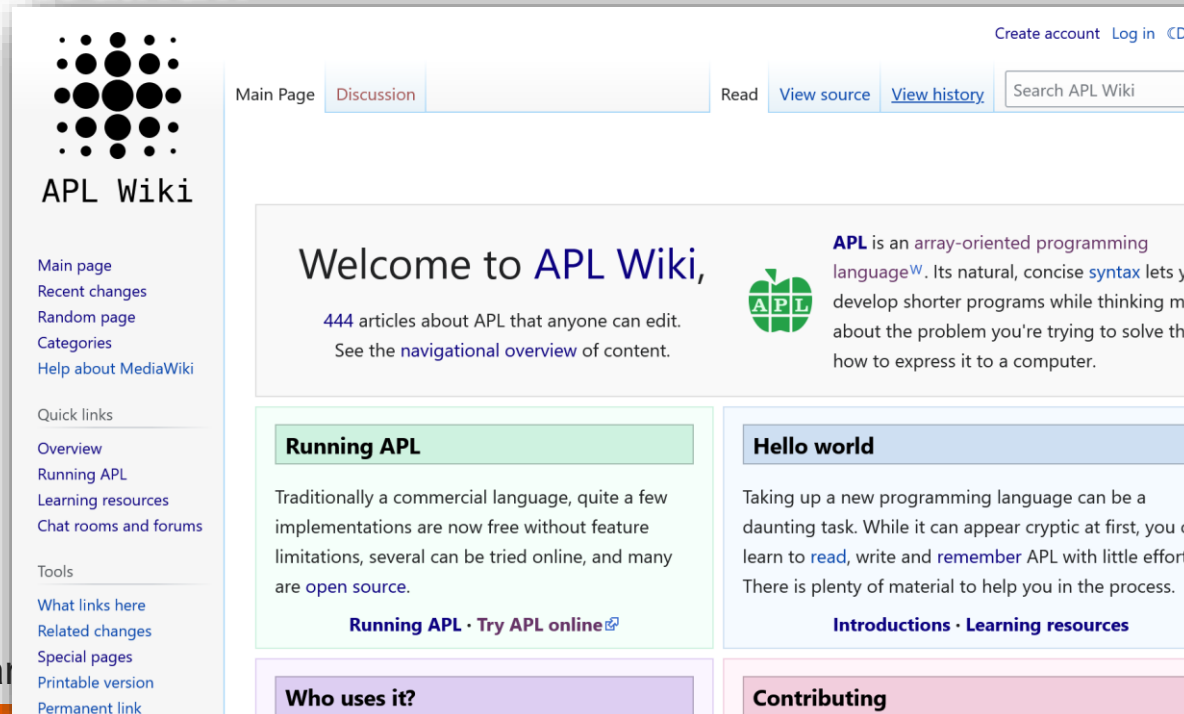
challenge.dyalog.com

apl.quest

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apl.wiki

What is APL at



The screenshot shows the APL Wiki homepage. At the top left is the APL Wiki logo, a grid of black dots of varying sizes. Below it is the text "APL Wiki". To the right of the logo is a navigation bar with "Main Page" and "Discussion" buttons, and a search box labeled "Search APL Wiki". In the top right corner, there are links for "Create account" and "Log in". The main content area features a large heading "Welcome to APL Wiki," followed by the text "444 articles about APL that anyone can edit. See the [navigational overview](#) of content." To the right of this text is a green APL logo and a paragraph: "APL is an array-oriented programming language^W. Its natural, concise [syntax](#) lets you develop shorter programs while thinking more about the problem you're trying to solve than how to express it to a computer." Below this are several article teasers: "Running APL" (green background) with the text "Traditionally a commercial language, quite a few implementations are now free without feature limitations, several can be tried online, and many are [open source](#)." and a link "Running APL · Try APL online"; "Hello world" (blue background) with the text "Taking up a new programming language can be a daunting task. While it can appear cryptic at first, you can learn to [read](#), write and [remember](#) APL with little effort. There is plenty of material to help you in the process." and a link "Introductions · Learning resources"; "Who uses it?" (purple background); and "Contributing" (pink background). A left sidebar contains a list of links: "Main page", "Recent changes", "Random page", "Categories", "Help about MediaWiki", "Quick links", "Overview", "Running APL", "Learning resources", "Chat rooms and forums", "Tools", "What links here", "Related changes", "Special pages", "Printable version", and "Permanent link".

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