

# APL Online!

Richard Park



DYALOG

2020



APL Online!

*Richard Park*

# 2020

2020

CANCELLED

2020

CANCELLED

# Meeting users

## FinnAPL metsäseminaari 2020

Metsäseminaaria lykätään koronaviruksen takia.

The seminar is postponed.

## BAA Mini Conference Spring 2020 – POSTPONED

***Canceled: Conference of GSE APL Working Group and APL-Germany, May 4-5, 2020***

The joint [spring conference of the GSE APL Working Group and APL-Germany](#) was canceled.

# Meetings users online

## ***NYCJUG Meeting - Tuesday, October 13th, 2020***

The New York City J Users Group held its regular monthly meeting on Tuesday, October 13th, at 4:30 pm, online. Meeting materials can be found [here](#).

## ***APLBUG - Monday, October 12th, 2020***

The APL Bay Area Users' Group, the Northern California APL ACM chapter, met on October 12th to hear Gavin Scott talk about APL\3000 for the HP 3000 minicomputer. APL\3000 was an ambitious implementation of APL at HP Labs in Palo Alto CA at the beginning of the 1970s, that sought to match the functionality of IBM's mainframe APL SV product on HP 3000, a 16-bit minicomputer. The URL for this virtual meeting is now available [here](#).

## ***APLBUG, September 14, 2020***

The virtual meeting [here](#) at 10 AM Pacific Daylight Time featured Paul Jackson speaking on his experience learning J with an explanation of some tools he wrote which can be found [here](#).

# Meetings users online

No.	Date	Presenter(s)	Title
22	23 Jan 2020	Richard Park	Train Spotting in Dyalog APL <a href="#">↗</a>
23	20 Feb 2020	Richard Park	Fast APL <a href="#">↗</a>
24	19 Mar 2020	Adám Brudzewsky	Progressive set functions <a href="#">↗</a>
25	16 Apr 2020	Richard Park	Selecting from Arrays <a href="#">↗</a>
26	30 Apr 2020	Morten Kromberg	Introducing Dyalog version 18.0 <a href="#">↗</a>
27	14 May 2020	Adám Brudzewsky	Language Features of Dyalog version 18.0 in Depth - Part 1 <a href="#">↗</a>
28	28 May 2020	Richard Park	APL and Microsoft Excel <a href="#">↗</a>
29	11 Jun 2020	Adám Brudzewsky	Language Features of Dyalog version 18.0 in Depth - Part 2 <a href="#">↗</a>
30	11 Jun 2020	Richard Park	Thinking in APL: Array-Oriented Solutions - Part 1 <a href="#">↗</a>
31	9 Jul 2020	Adám Brudzewsky	Language Features of Dyalog version 18.0 in Depth - Part 3 <a href="#">↗</a>
32	23 Jul 2020	Richard Park	The Rank Operator <a href="#">↗</a>
33	6 Aug 2020	Adám Brudzewsky	Language Features of Dyalog version 18.0 in Depth - Part 4 <a href="#">↗</a>
34	20 Aug 2020	Richard Park	Advanced Use of The Rank Operator <a href="#">↗</a>
35	3 Sep 2020	Adám Brudzewsky	Language Features of Dyalog version 18.0 in Depth - Part 5 <a href="#">↗</a>
36	17 Sep 2020	Richard Park	Thinking in APL: Array-Oriented Solutions - Part 2 <a href="#">↗</a>
37	1 Oct 2020	Richard Park	The Rank Operator and Dyadic Transpose <a href="#">↗</a>

No.	Date	Presenter(s)	Title
1	Apr 9th 2020	Richard Park, Dyalog	Molecular Dynamics-in-APL <a href="#">↗</a>
2	Apr 23rd 2020	MJH Software Services	Introducing qWC Alpha 0.4 <a href="#">↗</a>
3	May 7th 2020	Adám Brudzewsky, Dyalog	Meet the new APL Wiki <a href="#">↗</a>
4	May 21st 2020	Phil Last	Acre source-code manager update
5	Jun 4th 2020	Paul Grosvenor	British APL Association AGM
6	Jun 18th 2020	Bob Armstrong	CoSy : The Shortest Path from the Chip to the Math
7	Jul 2nd 2020	Adám Brudzewsky	aplcart.info turns 1
summer break			
8	Aug 13th 2020	John Jacob	BAA websites: New features
		Ellis Morgan	An APL recreation
9	Aug 27th 2020	Open Session	
10	Sep 10th 2020	Open session	
11	Sep 24th 2020	Ray Cannon	Using SVG from Dyalog APL for animated visualisation
12	Oct 8th 2020	Ray Polivka	Seats in the House of Representatives



## The APL Orchard



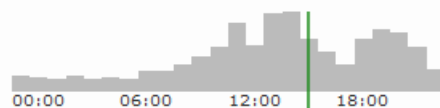
Learn, teach, ask, code, golf, & discuss. See [https://aplwiki.com/wiki/APL\\_Orchard](https://aplwiki.com/wiki/APL_Orchard) for access and info, <https://aplcart.info> for simple how-to questions. [edit](#)



[apl](#) [array-manipulation](#) [j](#) [k](#) [tips](#)

first message 2017-01-24

last message 18 minutes ago



52

today

155

yesterday

227

per day



846

this week

2.3k

last week

1.6k

per week

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221

119632



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What's this?

# Questions tagged [apl]

Ask Question

APL (named after the book A Programming Language) is an interactive array-oriented language. It is based on a mathematical notation developed by Kenneth E. Iverson. Do not use for Alexa Presentation Language use [alexa-presentation-language] instead.

Watch tag

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241 questions

Newest

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1

vote

1

answer

27 views

## Currying in GNU APL

I was trying to "curry" a function in GNU APL, however it doesn't seem to work? For example: (1+) 1 SYNTAX ERROR (1+)1 ^ ^ What am I doing wrong? Is + the wrong glyph ...

currying

apl

gnu-apl

asked Nov 4 at 21:04



13.3k

8

46

81

1

vote

2

answers

45 views

## Finding matching rows

Given two matrices A and B with the same number of columns I would like to know if there are any rows which are the same in A and B. In Dyalog APL I can use the function split like this: (⊥A) ∈ ⊥B Is ...

multidimensional-array

nested-lists

membership

apl

dyalog

asked Oct 29 at 19:08



August Karlstrom

7,903

5

31

52

2

votes

1

## How to manipulate multiple nested arrays in Dyalog APL?

I have been given matrices filled with alphanumerical values excluding lower case letters like so: XX11X1X XX88X8X Y000YYY ZZZZ789 ABABABC and have been tasked with counting the repetitions in each ...

mapping

lookup

apl

dyalog

asked Oct 15 at 4:59

The Overflow Blog

- Podcast 284: pros and cons of the SPA
- The Overflow #46: What does it mean to be a product-led company

Featured on Meta

- Creating new Help Center documents for Review queues: Project overview
- Announcing tweaks to the Triage queue
- Review queue Help Center draft: Triage queue

Custom Filters

[Create a custom filter](#)

Watched Tags



Watch tags to curate your list of questions.

Watch a tag

## GETTING STARTED

TOPICS

POSTS

LAST POST

**Using the Forum**

How to enrol; Forum policy; Entering APL characters; Discussions regarding Forum organization


28

67

by [Karen|Dyalog](#)   
on Fri May 04, 2018 8:40 am


**Frequently Asked Questions (FAQ)**

The Dyalog "Knowledgebase".

by [Karen|Dyalog](#)   
on Jul 29, 2020 10:31 am

**Installation**

Installing APL, Sorting out Fonts

by [to\\_sacco](#)   
on May 31, 2020 3:37 pm

**Miller-Rabin Primality Testing**

by [Roger|Dyalog](#) on Fri Aug 21, 2020 3:02 am

**encode**

by [Roger|Dyalog](#) on Sat Aug 15, 2020 8:34 pm

**modpower**

by [Roger|Dyalog](#) on Thu Aug 06, 2020 6:33 pm


**a design exercise**

by [Roger|Dyalog](#) on Fri Jul 31, 2020 2:07 am

## CHAT, MEETINGS, ANNOUNCEMENTS &amp; MORE


**APL Chat**

APL-related discussions - a stream of consciousness  
Not sure where to start a discussion?

OST  
by [ten|Dyalog](#)   
on Nov 08, 2020 8:08 am


**Announcements**

Announcements about conferences and events

by [ten|Dyalog](#)   
on Nov 04, 2020 6:34 pm

**Chat**

No need to worry about going "off topic"

by [m|Dyalog](#)   
on Sep 21, 2020 2:52 pm


## LANGUAGE AND DEVELOPMENT ENVIRONMENT

**New to Dyalog?**

Learning APL or new to Dyalog? Ask "silly" questions here, without fear...

128

735

by [Adam|Dyalog](#)   
on Mon Jun 22, 2020 6:28 pm

**Language**

General APL language issues

246

1219

by [paulmansour](#)   
on Mon Oct 26, 2020 1:00 pm



**code\_report** 8 months ago

@vasyop I am giving a talk on APL this year. It will be epic. And you will see that APL was one of the greatest languages created and is very misunderstood.



1



REPLY



#dyalog20

APL Online!



# @code\_report Conor Hoekstra



1 Problem, 8 Programming Languages (C++ vs Rust vs Clojure vs Haskell...)

39,619 views • 11 Oct 2020

👍 780

💬 72



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SAVE



**code\_report**

23.3K subscribers

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## Welcome to APL Wiki,

327 articles about APL that anyone can edit

APL is an [array-oriented programming language](#)<sup>W</sup>. 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.

### Running APL

Traditionally a commercial language, there are now quite a few implementations available to download for free without feature limitations, and several of these can be tried online without installing anything.

[Running APL](#) · [Try APL online](#)<sup>🔗</sup>

### Hello world

Taking up a new programming language can be a daunting task. While it can appear cryptic at first, you can learn to write and [read](#) APL with little effort. A few introductory guides have been created to help you in the process.

[Introductions](#) · [Learning resources](#) · [Language overview](#)

### Who uses it?

APL is used by both hobbyists and application developers. There are active [user groups](#) all around the globe, many of these hold regular in-person meet-ups. There is also a popular online [APL chat room](#).

[Case studies](#) · [Community overview](#)

### Contributing

APL Wiki is an online open-content [wiki](#)<sup>W</sup>; that is, a voluntary association of individuals and groups working to develop a common knowledge resource. The structure of the project allows anyone with an Internet connection to alter its content.

[How to contribute](#) · [New pages](#) · [Wanted pages](#)



#dyalog20

APL Online!



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## APL Wiki Frontpage

Note that this is the old wiki which is now read-only  
The new wiki is available as <https://aplwiki.com>

This wiki is about the **APL Programming Language**, one of the oldest (in terms of age) and youngest (in terms of concepts) of all programming languages. It is an interpreted language with built-in array capabilities and outstanding debugging features that makes the language an excellent choice for the 🐼 [agile approach](#). APL is also the very first functional programming language ever.

If you are curious about APL consider reading Bernard Legrand's excellent article ["APL - a Glimpse of Heaven"](#) on [Vector](#).

For news follow us on [Twitter](#); just search for "aplwiki".

## APL in action

- [Essays](#) - More text than code, these articles help you learn to think in APL
- [Puzzles](#) - Problems to exhibit & strengthen your APL muscles
- [Articles](#) - A collection of published articles on APL
- [Books and publications](#)
- [Studio](#) - Basic examples of APL code

Old content available at  
<https://old.aplwiki.com>

### Highlights

Try APL online: <http://tryapl.org>

["Hello World" with](#)

[APL in 20 Minutes](#)





2021

## BAA Zoom Sessions

00 - Objectives and Prerequisites | "Learn APL with Neural Networks"

9 views • 4 Nov 2020



Rodrigo Girão Serrão

1 subscriber

This video is part of the "Learn APL with Neural Networks" YouTube series available here:

<https://www.youtube.com/playlist?list...>

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2 0 SHARE SAVE ...

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Learn APL with Neural Networks

Rodrigo Girão Serrão - 1/24

00 - Objectives and Prerequisites |  
"Learn APL with Neural Networks"

Rodrigo Girão Serrão

01 - APL Setup | "Learn APL with  
Neural Networks"

Rodrigo Girão Serrão

02 - Neural Network Overview |  
"Learn APL with Neural Networks"...

Rodrigo Girão Serrão



#dialog20

APL Online!



```
TryAPL Version 3.0.0 (Dyalog version 18.0)
Mon Nov 09 2020 10:32:31
Copyright (c) Dyalog Limited 1982-2020
```

APL is an array-oriented programming language that will change the way you think about problems and data. With a powerful, concise syntax, it lets you develop shorter programs that enable you to think more about the problem you're trying to solve than how to express it to a computer.

TryAPL runs on Dyalog, which you can [download for free](#), or try it now by entering an expression (use the language bar above to type the special APL symbols), or clicking one of these expressions, followed by **Enter**, to see it in action:

2 + 2	No points for guessing this
4 2 3 + 8 5 7	Functions apply to arrays

<code>i 10</code>	Generate the first ten integers
<code>+/i 100000</code>	Sum the first 100 000 integers
<code>×/i 10</code>	A long, slow way to write <code>! 10</code>

$\text{Avg} \leftarrow \{ (+\omega) \div \# \omega \}$       Average is the sum divided by the count

$\text{Avg } 1 \ 6 \ 3 \ 4$       ... and apply it

throws←?10000p6	Store 10 000 dice throws
+/1=throws	Of 10 000 throws, how many 1s?
+/ (16)°. =throws	Frequency of all 6 possibilities

'Hello, World!'



[Home](#)[Help](#)[2020](#)[2019](#)[2018](#)[2017](#)[2016](#)[2015](#)

## APL Practice Problems

This site has automatically validated practice problems for [APL](#). These problems are sourced from [The APL Problem Solving Competition](#).

Each problem begins with a task description, some followed by a hint suggesting one or more APL primitives. These may be helpful in solving the problem, but you are under no obligation to use them. Clicking on a primitive in the hint will open the [Dyalog documentation page](#) for the suggested primitive.

Each problem text ends with a section of example cases with their solutions. Use these as a basis for implementing your solution.

careers@dyalog.com



**Note:** The validation system runs Dyalog version 17.1 so your solutions must work on this version of Dyalog APL.

## Contributing

Notice something wrong? [Report a bug](#)

Have an idea for a feature? [Submit a feature request](#)

Have an idea for a new practice problem? [Suggest a new Practice Problem](#)

problems.tryapl.org

## Sample Problem: Counting Vowels

Write an APL function to count the number of vowels (A, E, I, O, U) in an array consisting of uppercase letters (A–Z).

Hint: The membership function [X∈Y](#) could be helpful for this problem.



# APL Workshop

[rikedyp.github.io/APLWorkshop](https://rikedyp.github.io/APLWorkshop)



# APL Online!

## User Groups

[aplwiki.com/wiki/community](http://aplwiki.com/wiki/community)

## BAA + Dyalog Webinars

[dyalog.com/dates-for-your-diary.htm](http://dyalog.com/dates-for-your-diary.htm)

## Online Resources

[tryapl.org](http://tryapl.org)

[problems.tryapl.org](http://problems.tryapl.org)

[aplcart.info](http://aplcart.info)

[tatin.dev](http://tatin.dev)

APL community [edit]	
Activities	Dyalog user meetings · Webinars · APL Problem Solving Competition · Conferences · Iverson Award · Code golf · APL Cultivation
User groups	APL Borealis (Switzerland) · APL (UK) · FinnAPL (Finland) · JAPLA (Japan) · SAUG
People	Phil Abrams · Van Cleave · Marshall L. · Alan Perlis · Al Rose · Raymond Tisserand · Arthur Whitney · Cille Christensen · Philip · ten Kromberg · er Moore · Alex Morrow · off Streeter · Roy Sykes
Other	APL Orchard · Subreddits · APL Wiki · Blogs · Forums

The one-stop shop for your APL needs  
**aplwiki.com**

# Coming Up

BAA Open Session (16:00 GMT)

Next Thursday (19<sup>th</sup> November) + Every 2 weeks...

[britishaplassociation.org/webinar-schedule-2020](https://britishaplassociation.org/webinar-schedule-2020)

Frankfurt APLers (FRAPL) 27<sup>th</sup> November

[dyalog.com/dates-for-your-diary.htm](https://dyalog.com/dates-for-your-diary.htm)

[SIGAPL.org](https://SIGAPL.org)