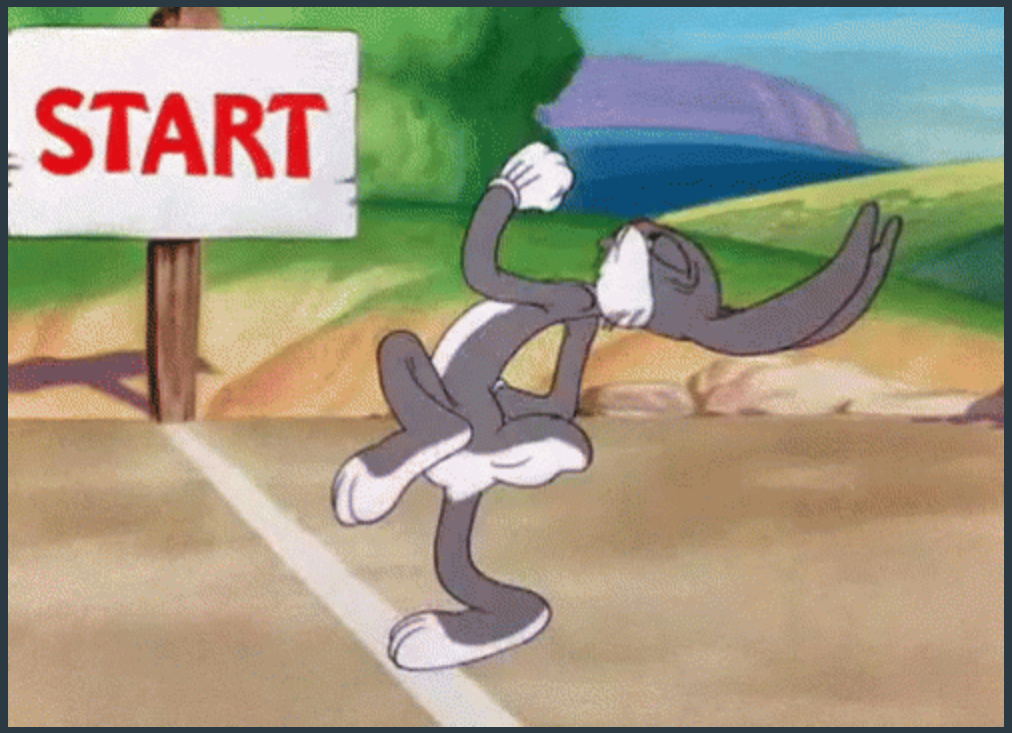
# PowerShell

It is probably more useful than you think 😉

https://powershell.surge.sh




Before we begin...

# How to Assess a Language

People

> *How well is the language supported?*

Platforms

> *Where can the language be used?*

Paradigms

> *What programming paradigms does the language support?*

# What is PowerShell?

> *...a cross-platform (Windows, Linux, and macOS) automation and configuration tool/framework that works well with your existing tools and is optimized for dealing with structured data (e.g. JSON, CSV, XML, etc.), REST APIs, and object models. It includes a command-line shell, an associated scripting language and a framework for processing cmdlets.* PowerShell GitHub Page

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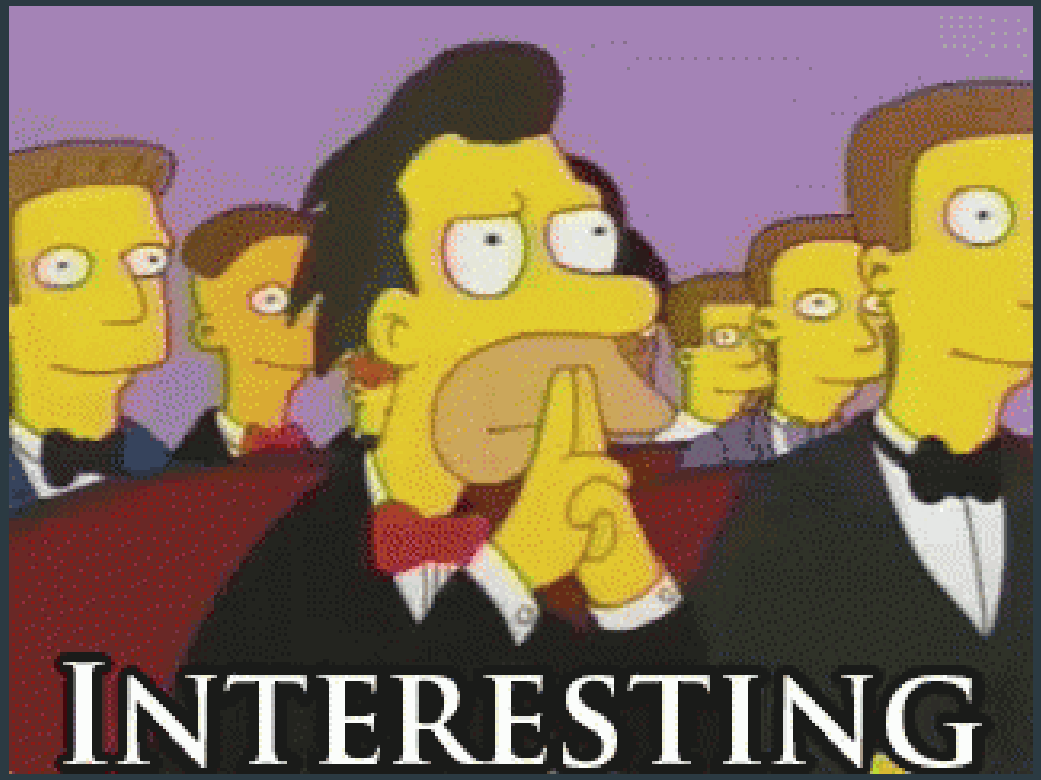
> *A user-focused typed programming language with native access to the host system and built-in support for structured data — available on Windows/Linux/Mac, pre-installed on Windows.* J. Wohlgemuth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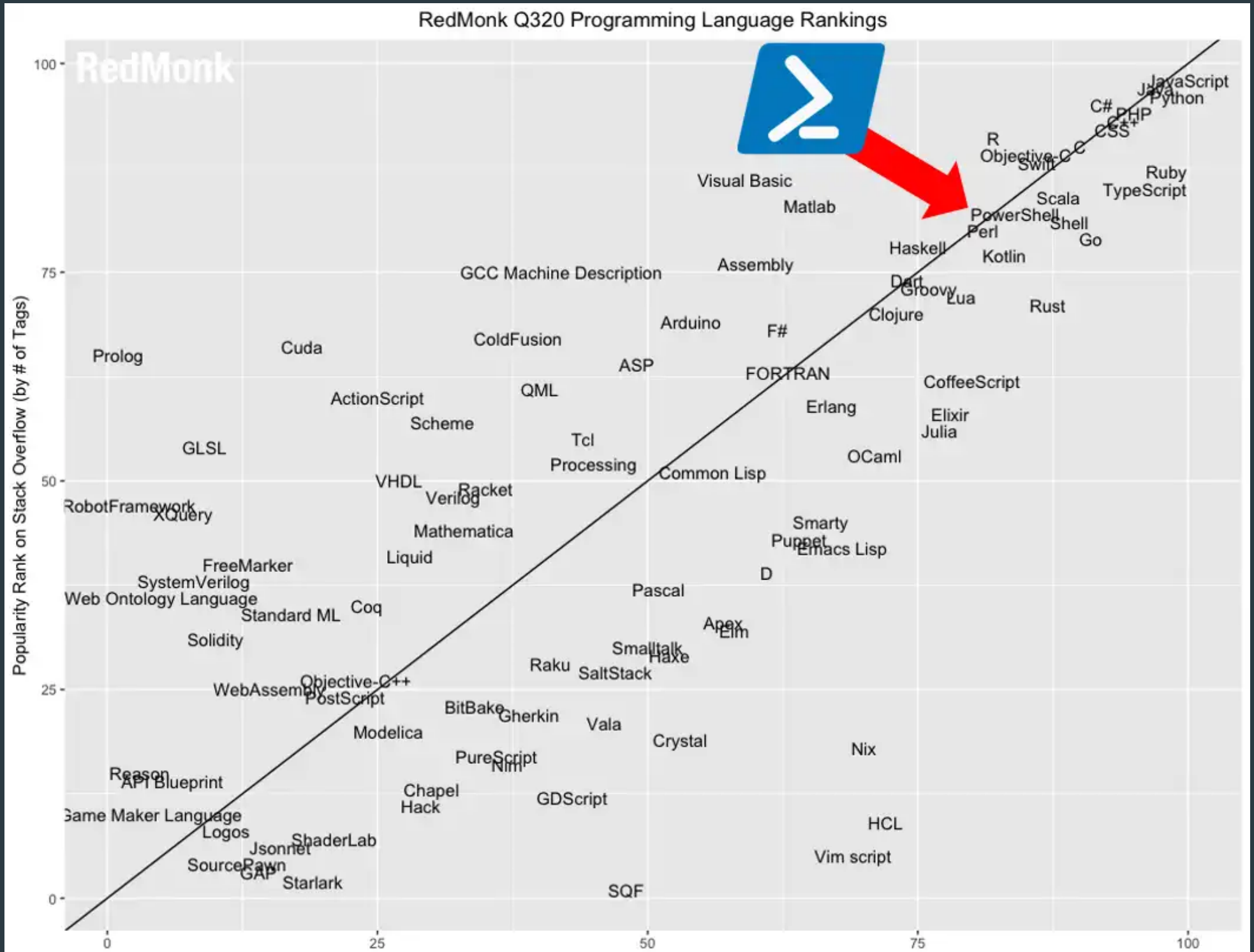
RedMonk Q320 Programming Language Rankings
RedMonk
Popularity Rank on Stack Overflow (by # of Tags)
100
75
50
25
0
0
25
50
75
100
JavaScript
Java
Python
C#
PHP
C++
CSS
R
Objective-C
C
Swift
Ruby
TypeScript
Visual Basic
Matlab
Scala
PowerShell
Shell
Perl
Go
Haskell
Kotlin
Assembly
GCC Machine Description
Dart
Groovy
Lua
Rust
Clojure
Arduino
F#
ColdFusion
Cuda
Prolog
ASP
FORTRAN
CoffeeScript
QML
ActionScript
Erlang
Elixir
Julia
Scheme
Tcl
GLSL
OCaml
Processing
Common Lisp
VHDL
Racket
Verilog
RobotFramework
XQuery
Smarty
Mathematica
Puppet
Emacs Lisp
Liquid
FreeMarker
D
SystemVerilog
Pascal
Web Ontology Language
Coq
Standard ML
Apex
Elm
Solidity
Smalltalk
Haxe
Raku
SaltStack
Objective-C++
WebAssembly
PostScript
BitBake
Gherkin
Vala
Modelica
Crystal
Nix
PureScript
Nim
Reason
API Blueprint
Chapel
Hack
GDScript
Game Maker Language
HCL
Logos
ShaderLab
Jsonnet
Vim script
SourceRawn
GAP
Starlark
SQF

# Samples

```
redential = Get-ChildItem Cert:\CurrentUser\My | ? { $_.FriendlyName -like "Digital Signature"
```

```
Get-ItemProperty HKLM:\SOFTWARE\WOW6432Node\Microsoft\Windows\CurrentVersion\Uninstall\* |
    Select-Object DisplayName, DisplayVersion, Publisher, InstallDate |
    Sort-Object DisplayName |
    Where-Object { $_.DisplayName.Length -gt 0 } |
    Format-Table -AutoSize
```

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```
Install-Module -Name Prelude -Scope CurrentUser
```

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# Why PowerShell?

# Why PowerShell?

Structured Data Support

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Structured Data Support

PowerShell dotnet

# Why PowerShell?

🤘 Structured Data Support

PowerShell 💗 dotnet

😉 Developer Experience (DX)

# Why PowerShell?

- Structured Data Support
- PowerShell dotnet
- Developer Experience (DX)
- Cross Platform Support

# Why PowerShell?

- Structured Data Support
- PowerShell dotnet
- Developer Experience (DX)
- Cross Platform Support
- Open Source

# Structured Data Support

✨ Built-in XML support ✨

```
<Barrel>
    <Monkey Action="no-see">🙈</Monkey>
    <Monkey Action="no-hear">🙉</Monkey>
    <Monkey Action="no-speak">🙊</Monkey>
</Barrel>
```

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```
# import data
[XML]$data = Get-Content -Path data.xml

# get information
$data.Barrel.Monkey.Count | Write-Host
```

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# Structured Data Support

✨ Built-in CSV support ✨

```
name,power,race,super
Goku,9001,Saiyan,yes
Gohan,3042,Hybrid,yes
Vegeta,8999,Saiyan,yes
Trunks,8500,Hybrid,yes
Picollo,8001,Namekian,no
Krillin,1000,Human,no
Yamcha,1,Human,no
```

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```
# import data
$data = ConvertFrom-Csv (Get-Content -Path data.csv

# get column
$data.name | Write-Host

# get row
$data[0] | Write-Host
```

Co

# PowerShell ♡ dotnet

# PowerShell ❤ dotnet

```
# import the code
Add-Type -TypeDefinition "
    using System;
    public class Calculator {
        public static double ToRadians(int degrees) {
            return degrees * (Math.PI / 180);
        }
    }
"

# use the code
[Calculator]::ToRadians(360)
```

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# PowerShell ❤ dotnet

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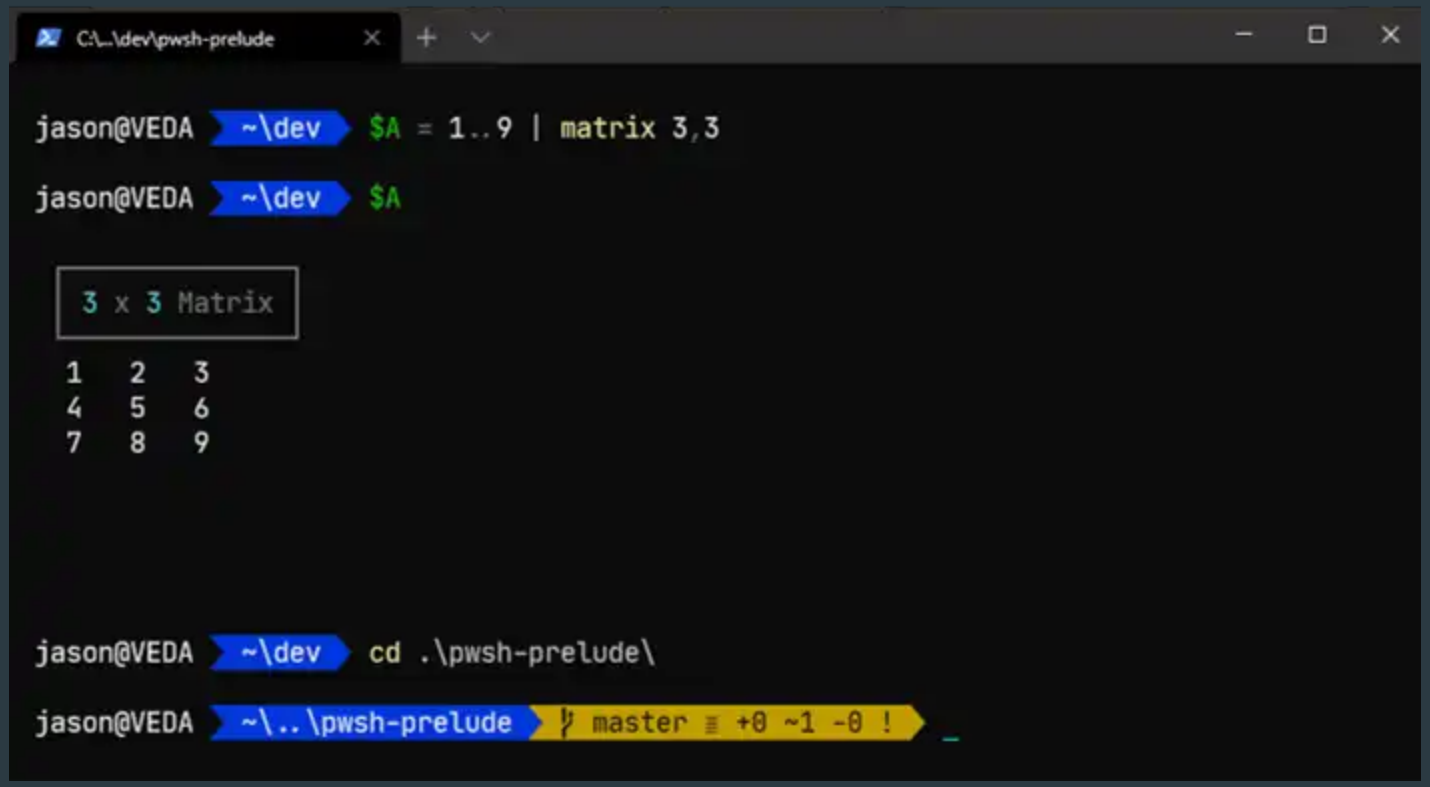
✨ Also works with dynamic linked libraries ✨

# Developer Experience (DX)

- Documentation / `Get-Help <cmdlet>`
- Mature workflows (lint, test, build etc...)
- Windows Terminal `#cantBelieveItsNotLinux`



# Cross platform

```
docker run -it mcr.microsoft.com/powershell
```

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# Open Source

https://github.com/PowerShell/PowerShell