

## Debate - Java and the Pantheon of Languages

- others known by students = C#, Python; Pascal; PHP;  
Visual Basic.net; Haskell; C# Lang; Swift; Scratch;  
Ruby; ADA (robotics); JavaScript; C++; HTML; assembler.

Java (sun, Oracle) is a 'softer' derivative of C,  
and there were several similar such as C++,  
and Objective C for Mac → Swift for iOS.

see slide for O'Reilly's family tree of languages:

At this point David gets 5 volunteers up to defend

Scratch; C#; Java; Python; PHP

This 'balloon' debate involves a series of questions with  
one language knocked out after each set of answers:

Q1. Is the language easy to learn?

- C# similar to Java, language for Unity Game Engine
- Java - Oracle's documentation online very good
- Scratch - taught in primary school, little cat... very easy!
- Python - looks like pseudo code, taught at school, annoyances for some experiences
- PHP - script online, no need for...  
PHP does easy to read, server-side scripting

## Q2. How easy to make a GUI?

C# if done with visual studio - right click, create form, WPF similar, drag + drop

Java Eclipse can gain plug-ins

Scratch All drag + drop, built around programming visually.

Python . Does have some drag + drop. But Py game has simply route to load images, no advanced pipeline.

PHP - Usually back-end server-side so no GUI, use HTML/JavaScript

FIRST VOTE : OUT

No. of votes: 1 for C#; 2 for JAVA; 8 for Scratch; 12 for Python.

ALL ELSE PHP OUT.

## Q3. How deal with events?

C# has event management built it 'simple, nice, works'

Java has 'Listeners' which has a separate thread for events.

Scratch : has a block for events .. easy

Python : "threading for events, can make your own, useful if you have very little clue what should happen next...."

## Q4. How easy is it to get your language to leverage system's GPU?

C# Lots of third party library items, can take from C++ - using open GL etc.

Java - "No idea" - audience says, involve libraries like, C#

Scratch - Basically nothing - doesn't require acceleration.

Python  
'C libraries  
' like C#

VOTE 2 : to remove :

no. of votes C# 10 ; Java 1 ; Scratch 12 ; Python  
ALL ELSE

Q5 : How easy to make cross-platform

C# - not designed but can be... cry of 'crow-barred'  
so can, plus Unity Game Engine.

Java - yes

Scratch - also on Raspberry Pi !

Q6 : How easy to set up?

C# = on Windows yes - install Mono for Mac.

Java : one download from Oracle, new installer  
from Eclipse, SDK.

Scratch : just run it, no libraries ?

Q7 : Does your language have a cute logo?

C# - just C plus #

Java - Does Dave count?

Scratch - Scratch Cat.

VOTE 3 :

C# ALL  
else. Java, 9 ; Scratch 5

Q8 : How does it handle exceptions?

Java : can throw errors + catch.

Scratch - you are not able to make errors.. no need.

Q9 How easy to implement peripheral devices?

Java - special event handlers, mouse listeners,  
if around for over a month someone will  
have written a driver.

Scratch - drag blocks, can even interact  
with Lego Mindstorms.

Q10 Can your language do anything useful?

Java - not really

Scratch - yes. teaching how to code

Q11 How easy to compile + run code?

Java - depends how well you have written it

Scratch - cannot make an error

VOTE 5 = Java - ALL else, Scratch - 1  
(Wins)

Scratch is written in Java, Python Java back  
end?

C# written in C++;

TIOBE index. What's discussed online?

52% C; Java; Objective C; C++; CR

Red Monk based on GitHub and Stack Overflow

PROGRAMMERS not just good at programming, but good  
at LEARNING TO PROGRAM. The basics apply to others  
3.4 in the Paradigm