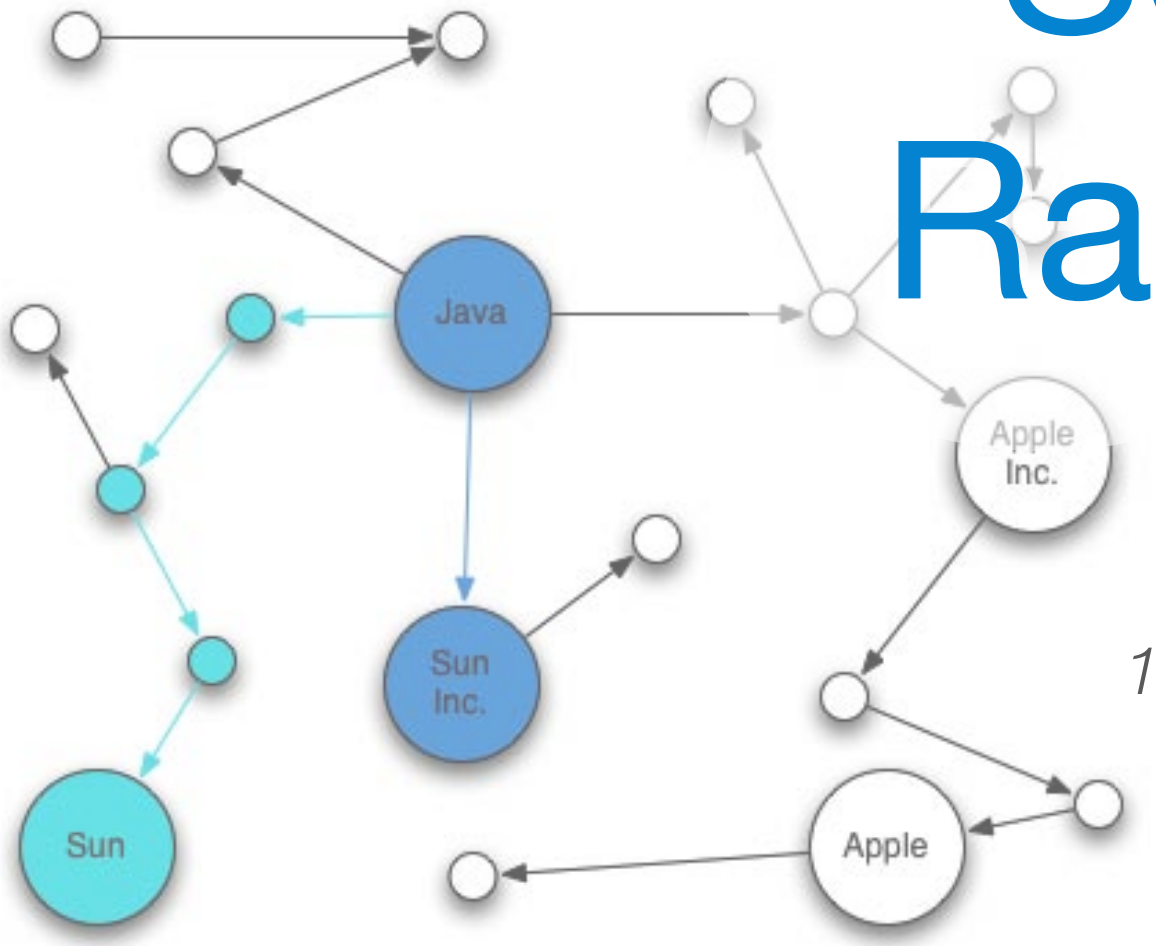
Concept
Demo
Final

Efficient Search Ranking



Benjamin Emde
& Eyk Kny
15 December 2009


Recap
In
Out
Findings
Demo

Recap

WIKIPEDIA
The Free Encyclopedia

navigation

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search

Go Search

interaction

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Java (software platform)

From Wikipedia, the free encyclopedia

Not to be confused with JavaScript.

Java refers to a number of computer software products and specifications from Sun Microsystems that together provide a system for developing application software and deploying it in a cross-platform environment. Java is used in a wide variety of computing platforms from embedded devices and mobile phones on the low end, to enterprise servers and supercomputers on the high end. Java is nearly ubiquitous in mobile phones, Web servers and enterprise applications, and while less common on desktop computers, Java applets are often used to provide improved and secure functionalities while browsing the World Wide Web.

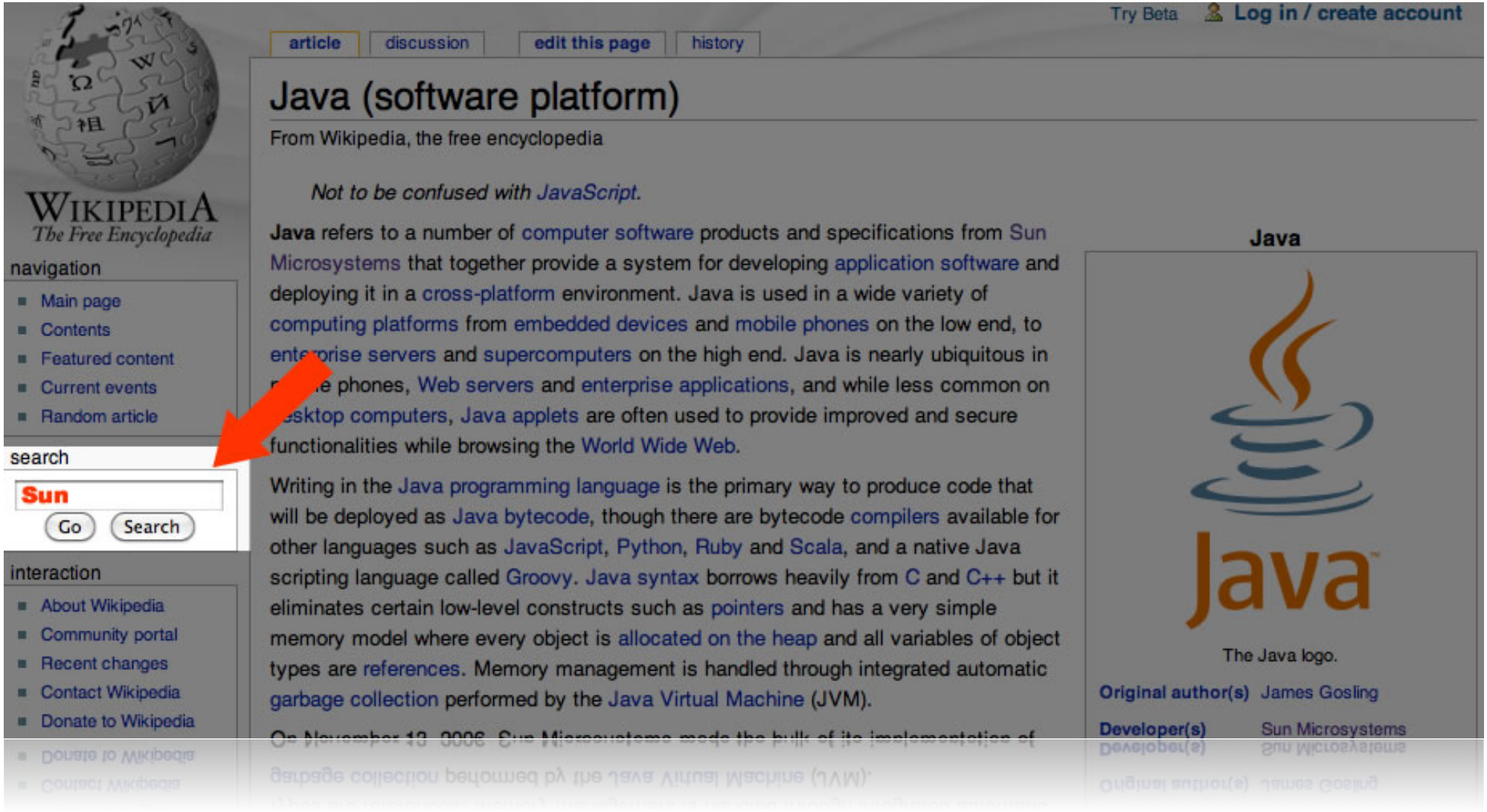
Writing in the Java programming language is the primary way to produce code that will be deployed as Java bytecode, though there are bytecode compilers available for other languages such as JavaScript, Python, Ruby and Scala, and a native Java scripting language called Groovy. Java syntax borrows heavily from C and C++ but it eliminates certain low-level constructs such as pointers and has a very simple memory model where every object is allocated on the heap and all variables of object types are references. Memory management is handled through integrated automatic garbage collection performed by the Java Virtual Machine (JVM).

On November 13, 2006, Sun Microsystems made the bulk of its implementation of

Java

The Java logo.

Original author(s)	James Gosling
Developer(s)	Sun Microsystems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Java (software platform)
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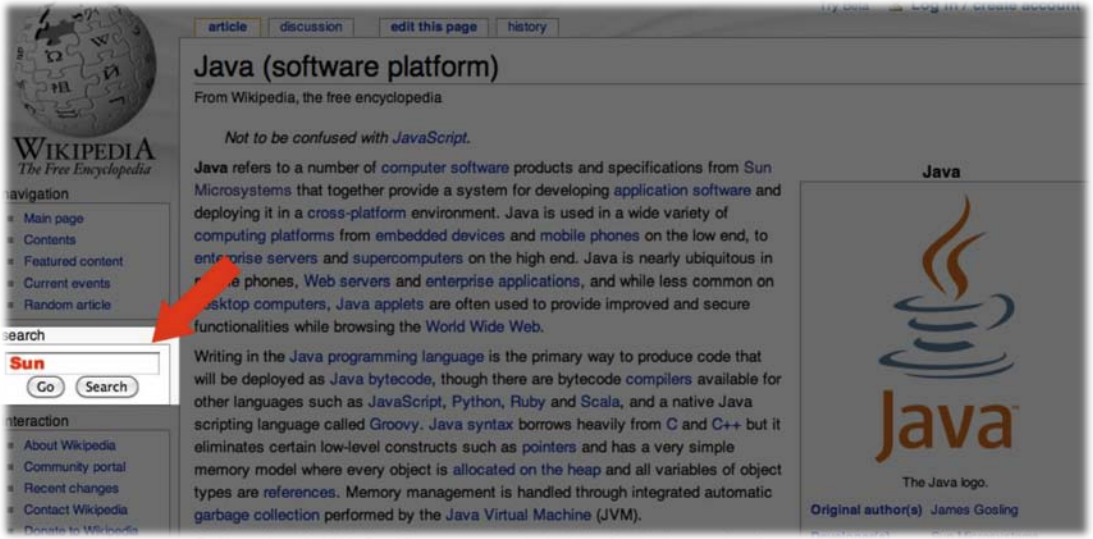
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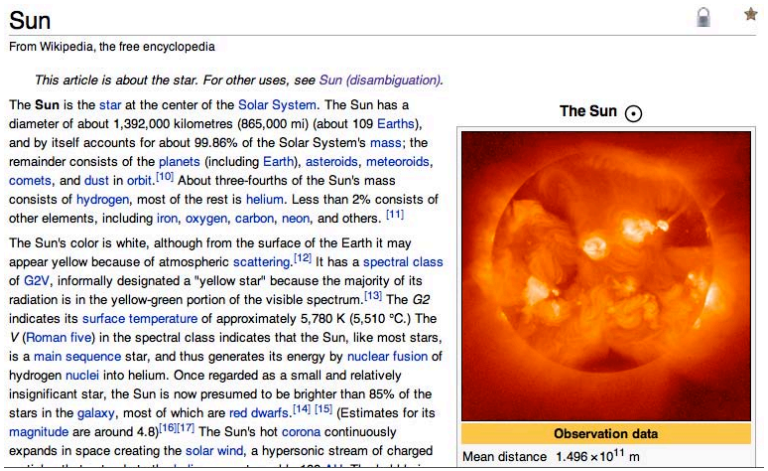
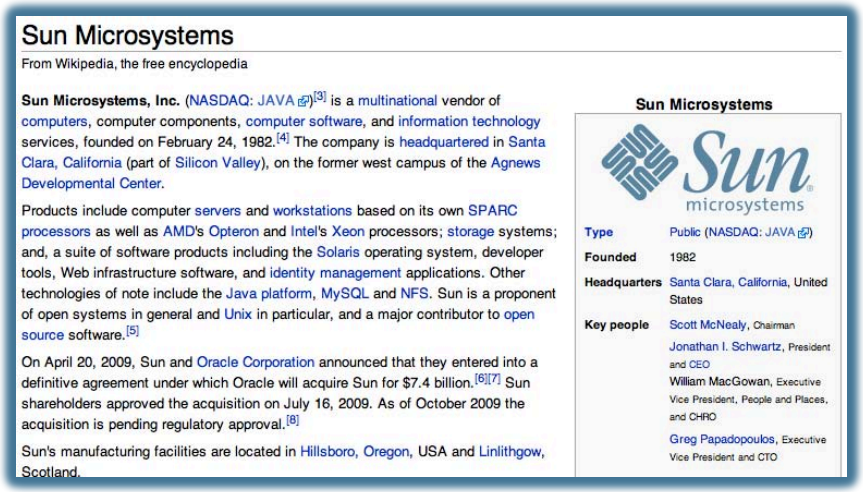
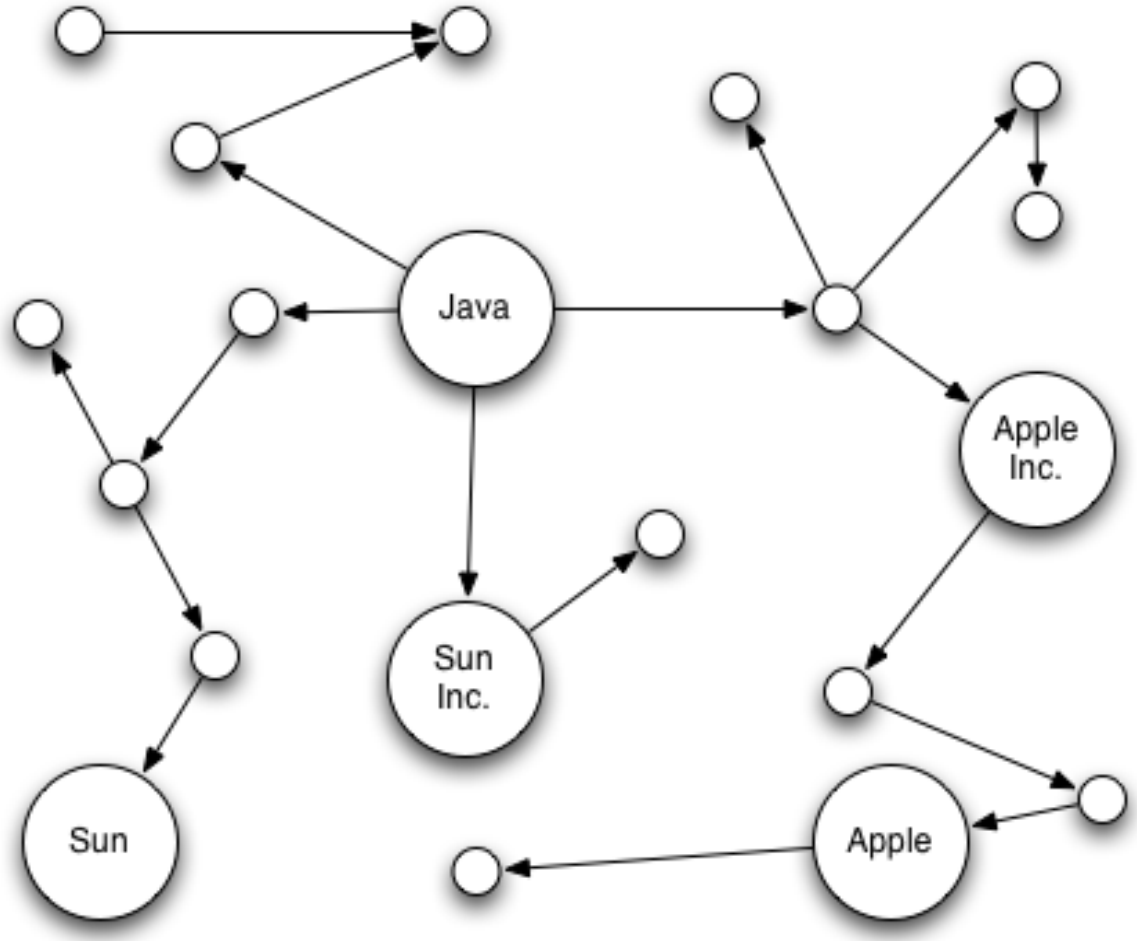

Sun
From Wikipedia, the free encyclopedia
This article is about the star. For other uses, see Sun (disambiguation).
The Sun is the star at the center of the Solar System. The Sun has a diameter of about 1,392,000 kilometres (865,000 mi) (about 109 Earths), and by itself accounts for about 99.86% of the Solar System's mass; the remainder consists of the planets (including Earth), asteroids, meteoroids, comets, and dust in orbit.[10] About three-fourths of the Sun's mass consists of hydrogen, most of the rest is helium. Less than 2% consists of other elements, including iron, oxygen, carbon, neon, and others. [11]
The Sun's color is white, although from the surface of the Earth it may appear yellow because of atmospheric scattering.[12] It has a spectral class of G2V, informally designated a "yellow star" because the majority of its radiation is in the yellow-green portion of the visible spectrum.[13] The G2 indicates its surface temperature of approximately 5,780 K (5,510 °C.) The V (Roman five) in the spectral class indicates that the Sun, like most stars, is a main sequence star, and thus generates its energy by nuclear fusion of hydrogen nuclei into helium. Once regarded as a small and relatively insignificant star, the Sun is now presumed to be brighter than 85% of the stars in the galaxy, most of which are red dwarfs.[14] [15] (Estimates for its magnitude are around 4.8).[16][17] The Sun's hot corona continuously expands in space creating the solar wind, a hypersonic stream of charged
The Sun
Observation data
Mean distance 1.496 ×10^11 m

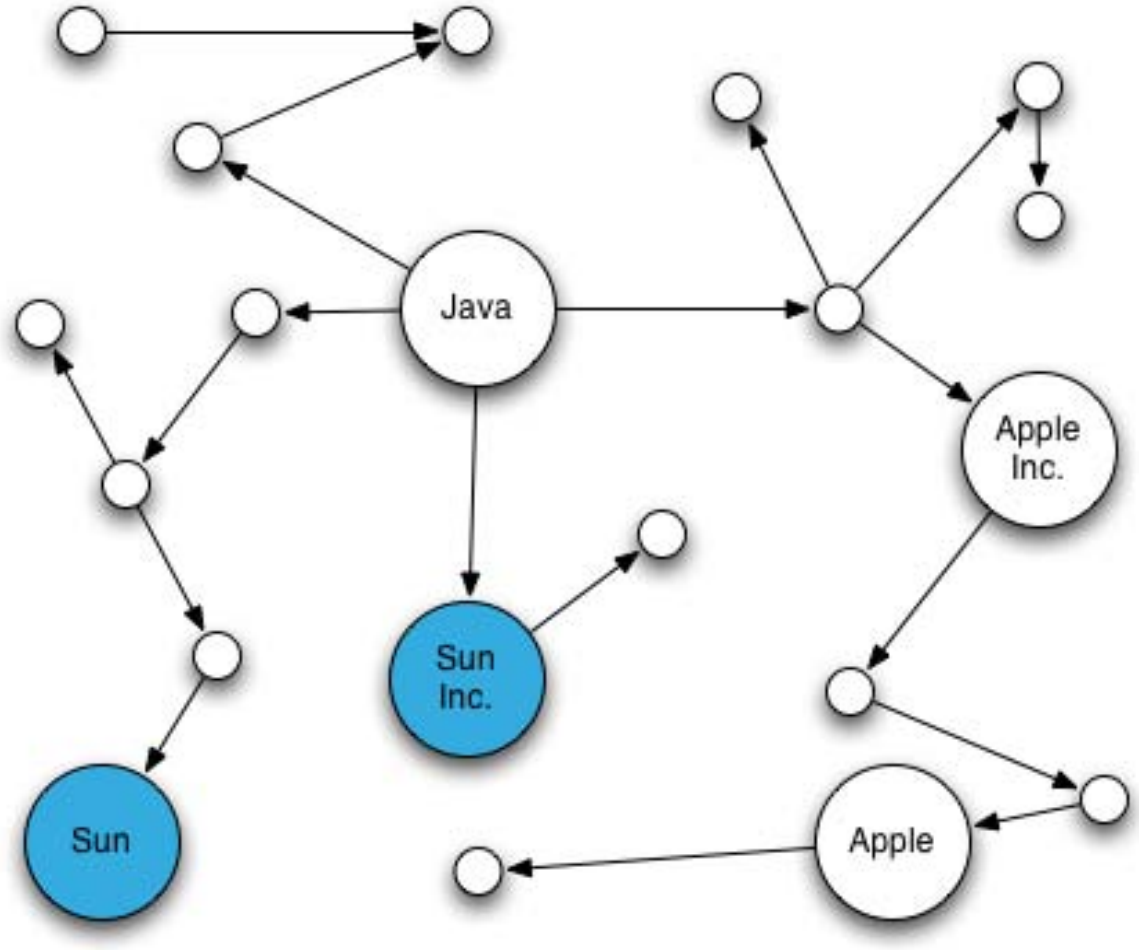

Sun Microsystems
From Wikipedia, the free encyclopedia
Sun Microsystems, Inc. (NASDAQ: JAVA)[3] is a multinational vendor of computers, computer components, computer software, and information technology services, founded on February 24, 1982.[4] The company is headquartered in Santa Clara, California (part of Silicon Valley), on the former west campus of the Agnews Developmental Center.
Products include computer servers and workstations based on its own SPARC processors as well as AMD's Opteron and Intel's Xeon processors; storage systems; and, a suite of software products including the Solaris operating system, developer tools, Web infrastructure software, and identity management applications. Other technologies of note include the Java platform, MySQL and NFS. Sun is a proponent of open systems in general and Unix in particular, and a major contributor to open source software.[5]
On April 20, 2009, Sun and Oracle Corporation announced that they entered into a definitive agreement under which Oracle will acquire Sun for $7.4 billion.[6][7] Sun shareholders approved the acquisition on July 16, 2009. As of October 2009 the acquisition is pending regulatory approval.[8]
Sun's manufacturing facilities are located in Hillsboro, Oregon, USA and Linlithgow, Scotland.
Sun Microsystems
Sun microsystems
Type Public (NASDAQ: JAVA)
Founded 1982
Headquarters Santa Clara, California, United States
Key people Scott McNealy, Chairman
Jonathan I. Schwartz, President and CEO
William MacGowan, Executive Vice President, People and Places, and CHRO
Greg Papadopoulos, Executive Vice President and CTO

Wikipedia Pagelink-Graph



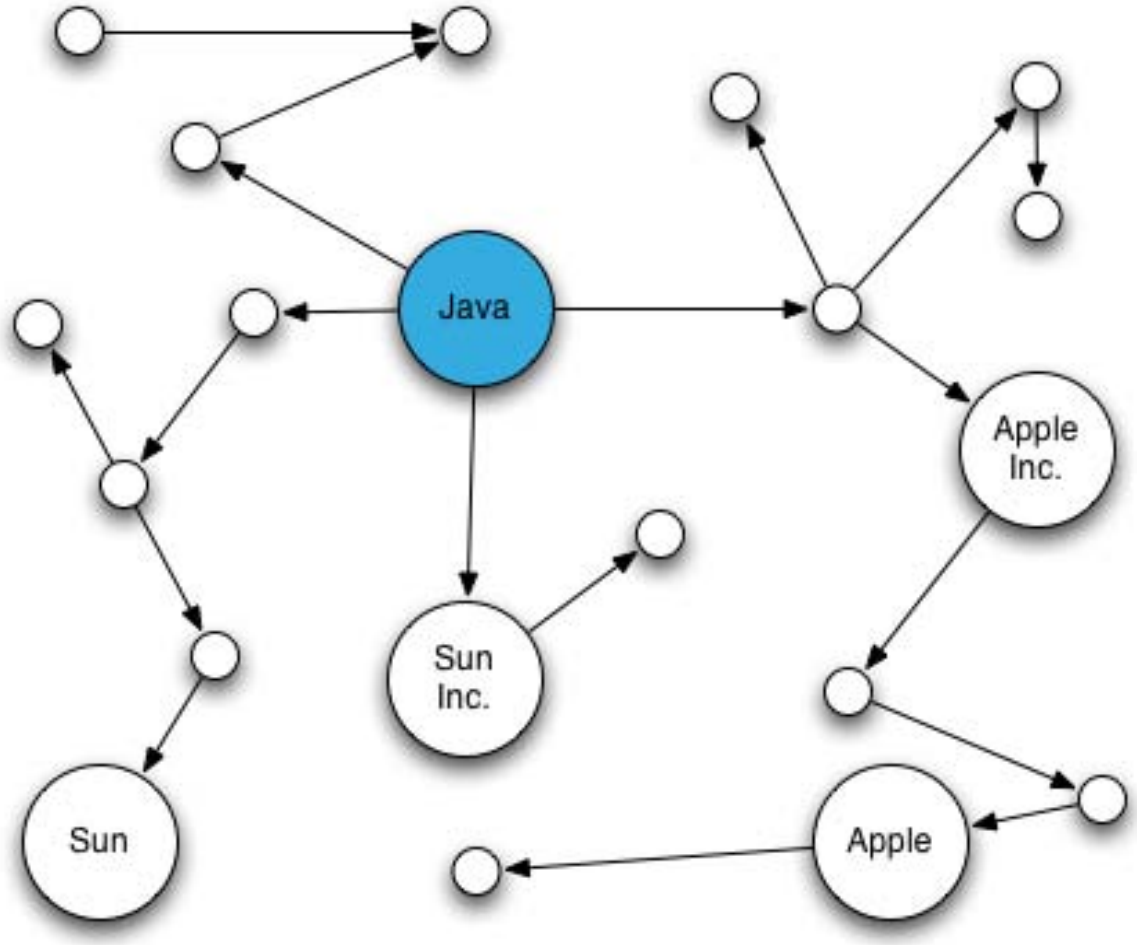
Input

Suchbegriff



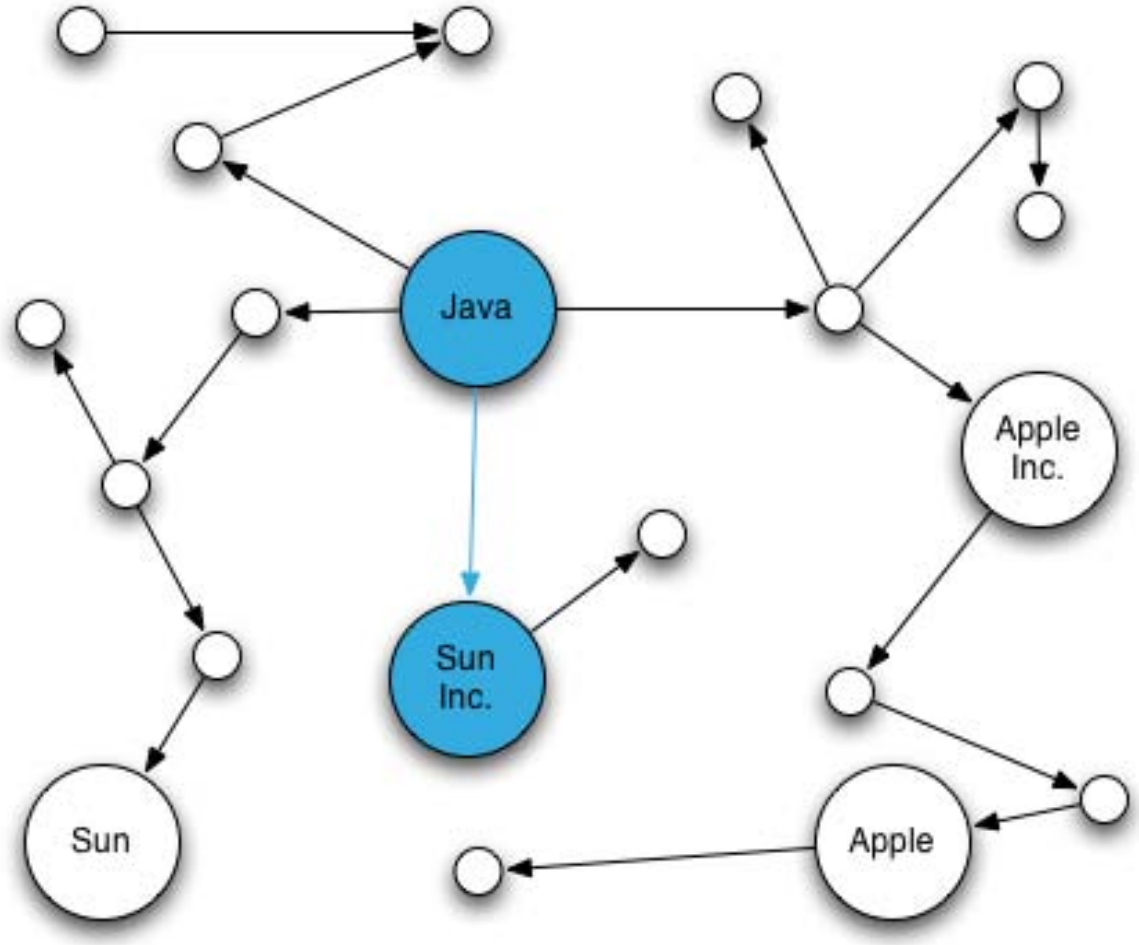
Input

Ausgangs-Seite



Input

Ranking der Suchergebnisse



Output

1. Offline Index (Seed distance vector) computation

2. Online (approx.) Ranking through Seed distances

Steps

InOut

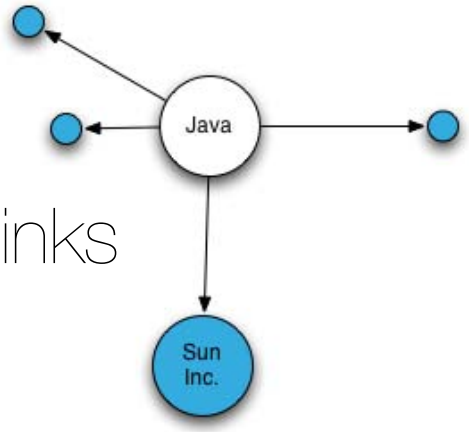
Input: pagelinks

Ouput: seed list

Goal: reach all pages within max seed distance

Seed selection

Goal: reach all pages within max seed distance



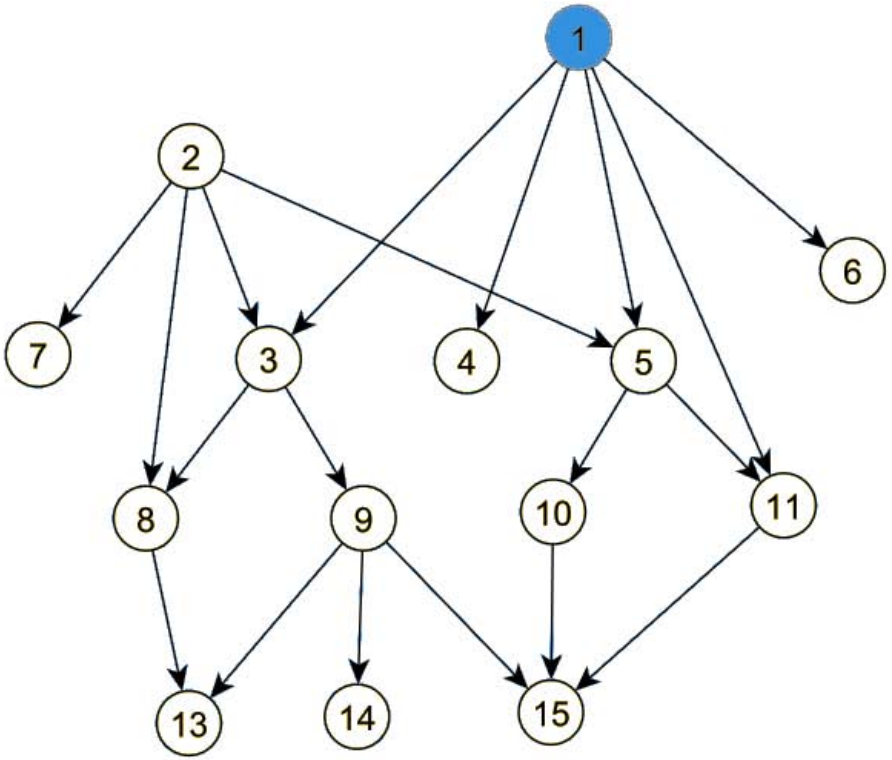
find pages with the most outgoing links

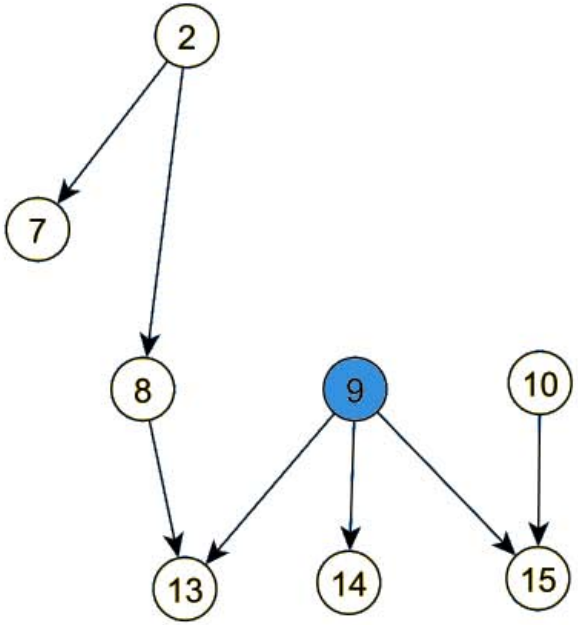
Problem: reached pages overlap

1999 in music
2000s in film
2002 in music
2004 in film
2004 in sports

First Approach

Goal: reach all pages within max seed distance





Zheng et al.

Input: pageId (linked pages) [empty* SDV]

Output: pageId (linked pages) [filled SDV]

SDV computation

Input: pageId [filled SDV]

MapReduce

Output: pageId rank

Live Ranking

Findings

#Pages with links: 2.799.639
#Links: 62.149.562

Max seed distance: 8

#Seeds:	25	computed in 2:15 h
Reach:	83.5 %	indexed in 15:01 min

Max seed distance: 3

#Seeds:	300	computed in 21:33 h
Reach:	42.8 %	indexed in 3:31 min

Max seed distance: 2

#Seeds:	1000	computed in 3 days
Reach:	40.3 %	indexed in 2 min

#Seeds:	50000	computed in 30 min
Reach:	73.4 %	indexed in 5:02 min

Offline

(Aktueller Wikipedia Pagelinks Dump)

#Pages with links:	3.136.330
#Links:	179.459.070

Max seed distance: 2

#Seeds:	100.000	computed in 20 min
Reach:	38.0 %	indexed in ~36 min

Offline

Demo