Java Programming

Module
Language Basics

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Java is a popular PL

Mar 2022	Mar 2021	Change		Programming Language	Ratings	Change
1	3	^		Python	14.26%	+3.95%
2	1	v		C	13.06%	-2.27%
3	2	v		Java	11.19%	+0.74%
4	4			C++	8.66%	+2.14%
5	5			C#	5.92%	+0.95%
6	6			Visual Basic	5.77%	+0.91%
7	7			JavaScript	2.09%	-0.03%
8	8			PHP	1.92%	-0.15%
9	9			Assembly language	1.90%	-0.07%
10	10			SQL	1.85%	-0.02%
11	13	^		R	1.37%	+0.12%
12	14	^		Delphi/Object Pascal	1.12%	-0.07%
13	11	v		Go	0.98%	-0.33%

Source: www.tiobe.com/tiobe-index/

Java History

- Java has been released on May 23rd 1995

- Initiated by Sun Programmer Patrick Naughton, who planned to leave Sun and wrote an e-mail to Sun CEO Scott McNealy about his dissatisfaction (hint: don't do this unless you play ice hockey with your CEO!)

- Naughton wanted easy-to-install and easy-to-maintain hardware

- In 1991, Naughton was allowed by McNealy to start an (initally one year budegted) project together with James Gosling and Mikde Sheridan (Project Green)

Java History

- Initial focus was the integration and control of household (embedded) devices such as toasters, VCRs, etc.
    - -> IOT (Internet of Things) w/o the Internet
- The WWW/Internet where not targeted initially
- Project Green included an own Operating System (Green OS),
an Interpreter (Oak), an own graphic sub-system, and hardware components
- Project Green initially developed also an own PDA (*7 "Star Seven"), which was also productised (company First Person, Inc)
- However, *7 never took off and was finished by April 1994

Java History

- Sun developed in Autumn 1994 an Oak-enabled Browser "WebRunner" (developed in Oak) which was able to view "Java Applets" (today known as HotJava realsed in 1995, see http://tinyurl.com/v857)

- However, the Netscape Browser dominated the market

- Java took off since Netscape licensed it and integrated it into Netscape

- JDK 1.0 (Java Development Kit) was release in January 1996

- Numerous Java Applets where developed to show Java's potential

- The development of Java from that time on was continued by JavaSoft (remaining members of the Green Project team)

Java History

- 1996: Java Component Architecture (Client side) JavaBeans supported by companies such as Borland, Lotus, Orcale, IBM, Netscape, Symantec

- 1996: Release of JDK 1.0

- March 1997: Release of JavaOS 1.0 (complete OS written in Java)
  JavaOS was discontinued by Sun from 2006 on

- Cebit 1997: Introduction of the JavaStation (thin client for Java Applications)
  First Java Processor "PicoJava"

- December 1998: JDK 1.2 aka "Java 2 Platform" (Swing Toolset, Drag-and-Drop API, ...)

Java History
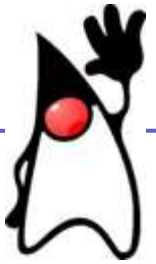
- May 2000: Release of JDK 1.3 (improved performance)

- …

- December 2006: Release of Java 6 (JavaScript support, Web Service API, Database Manager, ...)

- December 2007: Transfer of Java technology toward GPL (General Public License)

- April 2009: Oracle acquires Sun for about 7.5 billion USD

- March 2014: Java 8 released (1st LTS-Version), 9/10 Non-LTS

- September 2019: Java 13 released

Java as a "Platform"

- Here: Platform === Runtime Environment

- Java Platform, Standard Edition
  - JDK (Java Development Kit)
  - JRE (Java Runtime Environment)
- Java Platform, Enterprise Edition (distributed enterprise applications)
- Java Platform, Micro Edition (now: phoneME, targets small devices such as handhelds or mobile phones)
- Java Platform, Card Edition (smartcard support)

Sun's Marketing of Java

- Simple

- Architecture neutral

- Object-oriented

- Portable

- Distributed

- High performance

- Multithreaded

- Robust

- Dynamic

- Secure

Exercise 1.1

http://download.oracle.com/javase/tutorial/getStarted/intro/definition.html