

# Algoritmy

## Wprowadzenie

Organizacja pracy i środowisko programistyczne

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# Dane kontaktowe

## ■ Mirosław Ochodek

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- WWW: [www.cs.put.poznan.pl/mochodek](http://www.cs.put.poznan.pl/mochodek)

# Przedmiot

## ■ Algorytmy

- Wykład + ćwiczenia
  - Konstrukcja algorytmów
  - Zapis w formie schematów blokowych
- Laboratorium
  - Implementacja algorytmów – wprowadzenie do programowania (programowanie strukturalne)

## ■ Języki programowania

- Programowanie obiektowe

# O czym będziemy mówić?

- Konstrukcja i implementacja algorytmów
- Strukturalne podejście do programowania
  - Typy danych
  - Instrukcje warunkowe
  - Instrukcje iteracyjne
  - funkcje

# Organizacja zajęć

- Ćwiczenia – projektowanie algorytmów (schematy blokowe)
- Laboratorium – implementacja
  - Na zajęcia przynosimy schematy blokowe z ćwiczeń!
  - Brak schematów blokowych = nieobecność
  - Brak zadania domowego = nieobecność

# Ocenianie

- Obecność: 20% oceny
  - Maksymalnie 15 min spóźnienia
  - Posiadanie schematów blokowych
  - Posiadanie zadania domowego
- Kolokwium:
  - Typy danych - 10%
  - Wyrażenia warunkowe - 30%
  - Wyrażenia iteracyjne - 30%
  - Funkcje - 10%

# Algorytm, program, implementacja

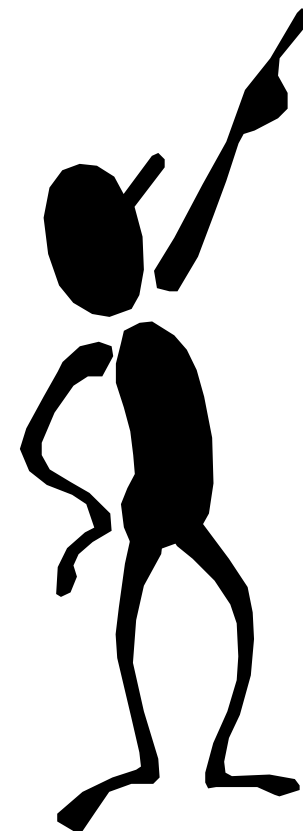
- Co to jest algorytm?
- Co to jest program?
- Co to jest implementacja?

# Program przykład

- Załóżmy, że człowiek jest programowalny
- Zaprogramuj kolegę/koleżankę tak, aby był(a) w stanie włączyć światło w sali...
- W jaki sposób można zaimplementować ten algorytm?
  - Słownie
  - Pisemnie
  - Schematem blokowym???
- Jaki może być poziom abstrakcji instrukcji?
  - Wstań, obróć się, idź 5m?
  - Idź włącz światło?

# Programowanie komputerów

- Czyli implementacja programu w przypadku komputera oznacza:
  - przetłumaczenie algorytmu na język zrozumiały dla komputera (który może zostać przetłumaczony na język maszynowy)!



# Język programowania

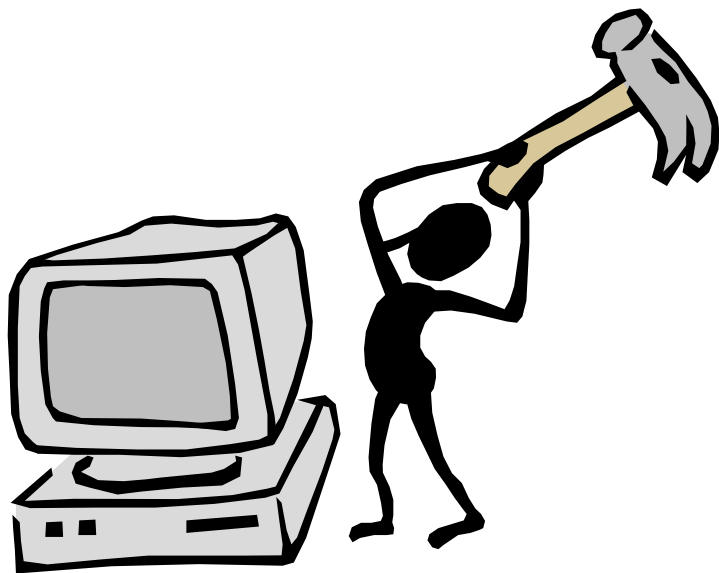
## ■ Język – Java

- Język obiektowy – my będziemy programować w sposób strukturalny (*obiekto* – *Języki Programowania*)
- Programowanie strukturalne
  - Implementujemy pewną sekwencję czynności (pewien algorytm)
  - Wykorzystujemy struktury danych

# Od pomysłu do programu



**Zaprojektuj algorytm!**  
Odpowiedz na pytanie jak „to” ma działać?

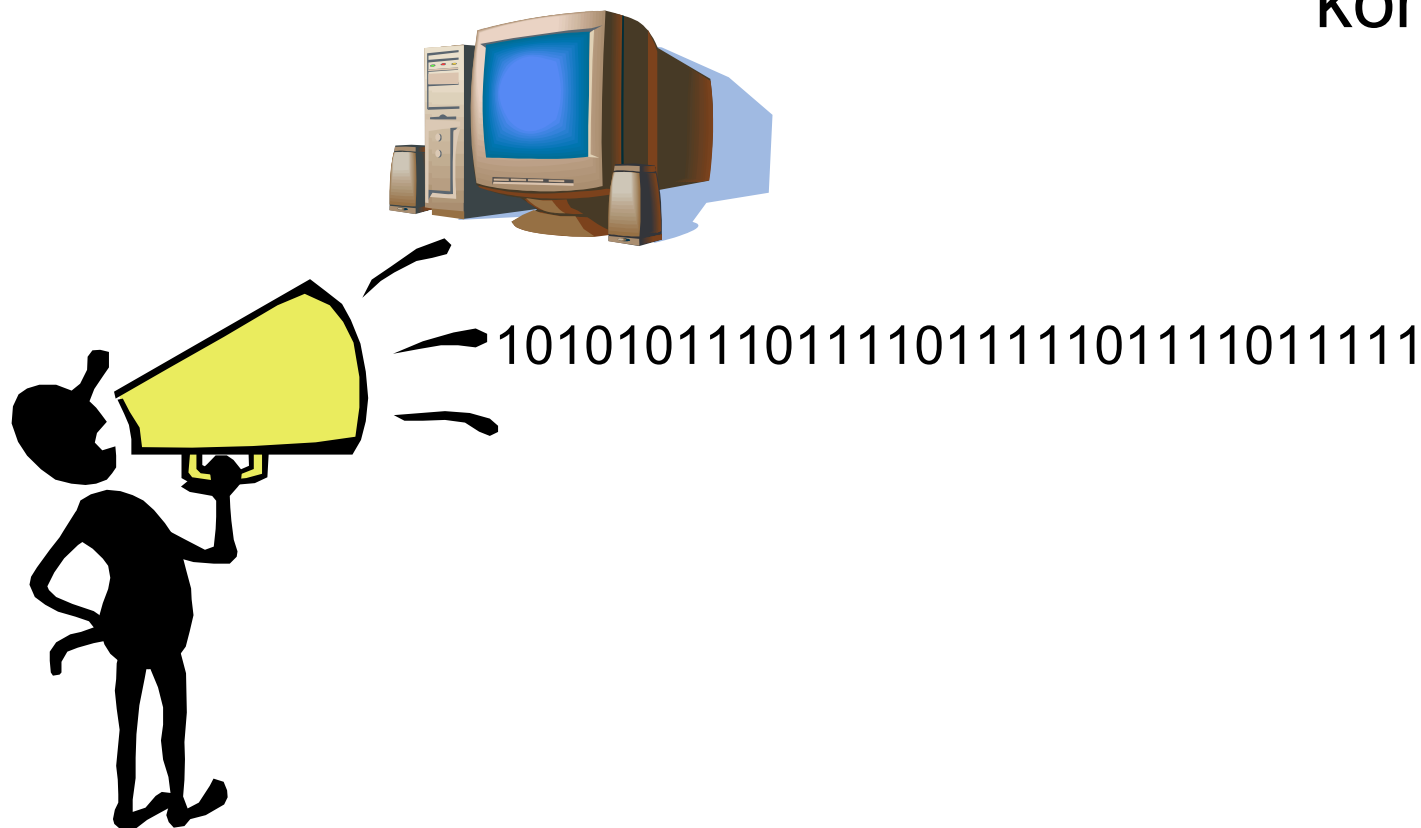


**Zapisz algorytm w języku programowania (np. Java)**

# Od pomysłu do programu

## Poddawaj napisany program kompilacji

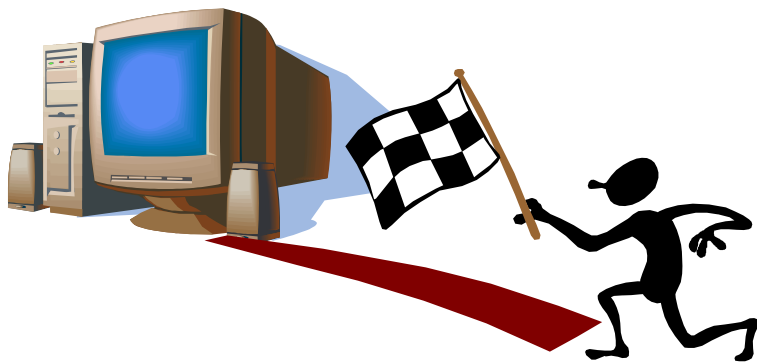
(kompilator tłumaczy program  
z języka programowania  
na język maszynowy – czyli zrozumiały dla  
komputera)



# Od pomysłu do programu

## Uruchom skompilowany program

(w przypadku języka Java, kod nie jest tłumaczony do kodu maszynowego, tylko do bajtkodu, który może zastać Zinterpretowany/wykonany przez maszynę wirtualną Javy)



# Instalacja Java

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www.java.sun.com

# Instalacja Java

The screenshot shows the Mozilla Firefox browser window displaying the Java SE Downloads page. The address bar shows the URL <http://java.sun.com/javase/downloads/?intcmp=1281>. The page features the Sun Developer Network (SDN) header with a search bar and navigation links. Below the header, there's a section for 'Java SE Downloads' with a banner image and the text 'It's time Download the complete environment and runtime environment'. The main content area has tabs for Overview, Technologies, Reference, Community, Support, and Downloads. Under the Downloads tab, there are links for Latest Release, Next Release (Early Access), Embedded Use, Real-Time, and Previous Releases. The 'Latest Release' section contains information about 'JDK 6 Update 4' and 'JDK 6 Update 4 with Java EE'. The 'JDK 6 Update 4' section has a red circle around the 'Download' button. The 'JDK 6 Update 4 with Java EE' section also has a 'Download' button. The 'JDK 6 Update 4 with NetBeans 6.0.1' section has a 'Download' button. The 'Java Runtime Environment (JRE) 6 Update 4' section has a 'Download' button. On the right side, there's a 'Regional Downloads' section with links for Japanese and Japanese. Below that is a 'Connect and Participate' section with a link to 'Participate Now'. At the bottom, there's a 'Related Resources' section with links to Compatibility, Performance, Security, Mobility, and Timezone Updates. The taskbar at the bottom shows various open applications, including Downloads, commons-la..., nl..., picasaweb..., ga..., submission..., Program\_S..., Darowizna..., blankiet-wpl..., netbeans-6..., gwtext..., gwt-windo..., cypal.studio..., 18\_02\_200..., acm(2).job..., and wtp-R-1.5....

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**JDK 6 Update 4**  
The Java SE Development Kit (JDK) includes the Java Runtime Environment (JRE) and command-line development tools that are useful for developing applets and applications.  
» More info about Java SE 6 Update 4 ...  
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**JDK 6 Update 4 with Java EE**  
This distribution of the Java SE Development Kit (JDK) is included in the Java EE 5 SDK, which provides web services, component-model, management, and communications APIs that make it the industry standard for implementing enterprise-class service-oriented architecture (SOA) and Web 2.0 applications.  
» More info about Java EE ...

**JDK 6 Update 4 with NetBeans 6.0.1**  
This distribution of the Java SE Development Kit (JDK) includes NetBeans IDE, which is a powerful integrated development environment for developing applications on the Java platform.

**Java Runtime Environment (JRE) 6 Update 4**

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Wybrać platformę, pobrać, zainstalować

# Środowisko programistyczne

- Wygodne środowisko do tworzenia programów w danym języku programowania
- Edytor, który podpowiada składnie języka
- Pozwala zarządzać plikami programu
- Pozwala uruchamiać programy
- Pozwala śledzić wykonanie programów
  
- Przykład: Eclipse

# Instalacja Eclipse 3.0

Eclipse.org home - Mozilla Firefox

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Eclipse - an open development platform

Eclipse is an open source community whose projects are focused on building an open development platform comprised of extensible frameworks, tools and runtimes for building, deploying and managing software across the lifecycle. A large and vibrant ecosystem of major technology vendors, innovative start-ups, universities, research institutions and individuals extend, complement and support the Eclipse platform. **New to Eclipse?**

[Download Eclipse](#)

Eclipse is used for ...

- Enterprise Development
- Embedded + Device Development
- Rich Client Platform
- Application Frameworks
- Language IDE

Screenshots

Announcements

- Eclipse Riena project enhances building enterprise applications using Eclipse RCP +6 days ago
- EclipseCon Early Registration Deadline is February 14; Register Today! +1 week ago
- Voting for the Individual Eclipse Awards is Open +2 weeks ago
- Ganymede M4 packages now available for testing +3 weeks ago

More Announcements..

Spotlights

- Voting for the Individual Eclipse Awards Ends February 21**  
Vote for Eclipse's Top Ambassador, Top Committer and Top Contributor by Thursday, February 21.
- Meet the Board Candidates**  
Meet the candidates for the 2008 Eclipse Board of Directors election. Voting will open February 25.

Community News

- Genuitec Announces MyEclipse Blue Edition: A No-Risk Option to RAD for WebSphere Developers**  
+7 days ago
- Tasktop 1.0 Released: Reclaim your workday** +1 week ago
- White paper: Accelerating the Development of Embedded Linux Devices with JTAG On-Chip Debugging**  
+2 weeks ago
- Universal Middleware: What's Happening With OSGi and Why You Should Care** +2 weeks ago
- froglogic Releases Squish 3.3, The Automated GUI Testing Tool** +2 weeks ago
- Open Your Eyes to OSGi** +2 weeks ago
- Develop iPhone Web applications with Eclipse** +2 weeks ago

More News..

Eclipse Live

- Rich AJAX Platform (RAP) Project**  
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- Regressions in your RCP GUI? Automate your RCP GUI tests!** +2 weeks ago
- Automated GUI test creation before application availability** +3 weeks ago

Resources

- Develop iPhone Web applications with**

Useful Links

- Bugs
- Documentation
- Newsgroups
- IRC
- Eclipse Project Wiki
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Eclipse Plugin Central

- eFace free edition - XAML for Java v1.0.6** +21 hours ago
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www.eclipse.org

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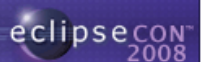
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|  | <b>Eclipse IDE for Java Developers</b> - Windows (78 MB)<br>The essential tools for any Java developer, including a Java IDE, a CVS client, XML Editor and Mylyn. <a href="#">Find out more...</a>                                                                                                                                                                  | Windows<br>Linux<br>Mac OS X |
|  | <b>Eclipse IDE for Java EE Developers</b> - Windows (126 MB)<br>Tools for Java developers creating JEE and Web applications, including a Java IDE, tools for JEE and JSF, Mylyn and others. <b>Java 5 (or higher) required.</b> <a href="#">Find out more...</a>                                                                                                    | Windows<br>Linux<br>Mac OS X |
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|  | <b>Eclipse for RCP/Plug-in Developers</b> - Windows (153 MB)<br>A complete set of tools for developers who want to create Eclipse plug-ins or Rich Client Applications. It includes a complete SDK, developer tools and source code. <a href="#">Find out more...</a>                                                                                               | Windows<br>Linux<br>Mac OS X |
|  | <b>Eclipse Classic 3.3.1.1</b> - Windows (140 MB)<br>The classic Eclipse download: the Eclipse Platform, Java Development Tools, and Plug-in Development Environment, including source and both user and programmer documentation. <a href="#">Find out more...</a><br><a href="#">Release notes</a>   <a href="#">All Versions</a>   <a href="#">Documentation</a> | Windows<br>Linux<br>Mac OS X |

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|  | <b>Genuitec, LLC</b> | Projects: Eclipse Europa                                 |
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| Build Type                   | Build Name                           | Build Date                        |
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| Latest Release               | <a href="#">3.3.1.1</a>              | Tue, 23 Oct 2007 -- 16:52 (-0400) |
| 3.4 Stream Stable Build      | <a href="#">3.4M5</a>                | Thu, 7 Feb 2008 -- 15:30 (-0500)  |
| 3.4 Stream Integration Build | <a href="#">I20080219-1124</a>       | Tue, 19 Feb 2008 -- 11:24 (-0500) |
| 3.4 Stream Nightly Build     | <a href="#">N20080220-0010</a>       | Wed, 20 Feb 2008 -- 00:10 (-0500) |
| 3.3.2 Stream Build           | <a href="#">M20080212-1200</a>       | Tue, 12 Feb 2008 -- 12:00 (-0500) |
| Language Pack                | <a href="#">3.2.1 Language Packs</a> | Thu, 21 Sep 2006 -- 09:45 (-0400) |

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| Build Name              | Build Date                        |
|-------------------------|-----------------------------------|
| <a href="#">3.3.1.1</a> | Tue, 23 Oct 2007 -- 16:52 (-0400) |

### 3.4 Stream Stable Builds

| Build Name            | Build Date                        |
|-----------------------|-----------------------------------|
| <a href="#">3.4M5</a> | Thu, 7 Feb 2008 -- 15:30 (-0500)  |
| <a href="#">3.4M4</a> | Thu, 13 Dec 2007 -- 17:00 (-0500) |
| <a href="#">3.4M3</a> | Thu, 1 Nov 2007 -- 20:00 (-0400)  |
| <a href="#">3.4M2</a> | Fri, 21 Sep 2007 -- 09:19 (-0400) |
| <a href="#">3.4M1</a> | Thu, 9 Aug 2007 -- 11:05 (-0400)  |

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| Build Name                     | Build Date                        |
|--------------------------------|-----------------------------------|
| <a href="#">I20080219-1124</a> | Tue, 19 Feb 2008 -- 11:24 (-0500) |
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|----------------------------------|--------------------------------------|-----------------------------------|
| Archived Release                 | <a href="#">3.3.1</a>                | Fri, 21 Sep 2007 -- 11:45 (-0400) |
| Archived 3.3 Stream Stable Build | <a href="#">3.3RC4</a>               | Fri, 8 Jun 2007 -- 17:18 (-0400)  |
| Archived Language Pack           | <a href="#">3.1.1 Language Packs</a> | Wed, 5 Oct 2005 -- 13:00 (-0400)  |

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| <a href="#">3.3.1</a> | Fri, 21 Sep 2007 -- 11:45 (-0400) |
| <a href="#">3.3</a>   | Mon, 25 Jun 2007 -- 15:00 (-0400) |
| <a href="#">3.2.2</a> | Mon, 12 Feb 2007 -- 13:30 (-0500) |
| <a href="#">3.2.1</a> | Thu, 21 Sep 2006 -- 09:45 (-0400) |
| <a href="#">3.2</a>   | Thu, 29 Jun 2006 -- 19:05 (-0400) |
| <a href="#">3.1.2</a> | Wed, 18 Jan 2006 -- 16:00 (-0500) |
| <a href="#">3.1.1</a> | Thu, 29 Sep 2005 -- 08:40 (-0400) |
| <a href="#">3.1</a>   | Mon, 27 Jun 2005 -- 14:35 (-0400) |
| <a href="#">3.0.2</a> | Fri, 11 Mar 2005 -- 08:45 (-0500) |
| <a href="#">3.0.1</a> | Thu, 16 Sep 2004 -- 11:25 (-0400) |
| <a href="#">3.0</a>   | Fri, 25 Jun 2004 -- 12:08 (-0400) |
| <a href="#">2.1.3</a> | Wed, 18 Mar 2004 -- 18:28 (-0500) |
| <a href="#">2.1.2</a> | Mon, 3 Nov 2003 -- 08:02 (-0500)  |
| <a href="#">2.1.1</a> | Fri, 27 Jun 2003 -- 15:45 (-0400) |
| <a href="#">2.1</a>   | Thu, 27 Mar 2003 -- 21:30 (-0500) |
| <a href="#">2.0.2</a> | Thu, 7 Nov 2002 -- 14:48 (-0500)  |
| <a href="#">2.0.1</a> | Thu, 29 Aug 2002 -- 18:28 (-0400) |
| <a href="#">2.0</a>   | Thu, 27 Jun 2002 -- 18:35 (-0400) |
| <a href="#">1.0</a>   | Wed, 7 Nov 2001 -- 00:01 (-0500)  |

## Archived 3.3 Stream Stable Builds

| Build Name             | Build Date                       |
|------------------------|----------------------------------|
| <a href="#">3.3RC4</a> | Fri, 8 Jun 2007 -- 17:18 (-0400) |

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Done

Light Rain, 5°C -1°C 8°C

# Instalacja Eclipse 3.0

Eclipse Tools Project - Mozilla Firefox

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http://archive.eclipse.org/eclipse/downloads/drops/R-3.0-200406251208/index.php

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## New and Noteworthy

To view the build notes for this build click [here](#).  
To view the test results for this build click [here](#).  
To view the map file entries for this build click [here](#).

You can also download builds via anonymous ftp at [download.eclipse.org](http://download.eclipse.org).

Click [here](#) for instructions on how to verify the integrity of your downloads.

## Eclipse SDK

The Eclipse SDK includes the Eclipse Platform, Java development tools, and Plug-in Development Environment, including source and both user and programmer documentation. If you aren't sure which download you want... then you probably want this one. **Eclipse does not include a Java runtime environment (JRE).** You will need a 1.4.1 level or higher Java runtime or Java development kit (JDK) installed on your machine in order to run Eclipse. [Click here](#) if you need help finding a Java runtime.

| Status | Platform                                                               | Download                                                                        |
|--------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| ✓      | Windows 98/ME/2000/XP                                                  | <a href="#">eclipse-SDK-3.0-win32.zip</a> ( <a href="#">md5</a> )               |
| ✓      | Linux (x86/Motif) ( <a href="#">Supported Versions</a> )               | <a href="#">eclipse-SDK-3.0-linux-motif.zip</a> ( <a href="#">md5</a> )         |
| ✓      | Linux (x86/GTK 2) ( <a href="#">Supported Versions</a> )               | <a href="#">eclipse-SDK-3.0-linux-gtk.zip</a> ( <a href="#">md5</a> )           |
| ✓      | Linux (AMD 64/GTK 2) ( <a href="#">Supported Versions</a> )            | <a href="#">eclipse-SDK-3.0-linux-gtk-amd64.zip</a> ( <a href="#">md5</a> )     |
| ✓      | Solaris 8 (SPARC/Motif)                                                | <a href="#">eclipse-SDK-3.0-solaris-motif.zip</a> ( <a href="#">md5</a> )       |
| ✓      | AIX (PPC/Motif)                                                        | <a href="#">eclipse-SDK-3.0-aix-motif.zip</a> ( <a href="#">md5</a> )           |
| ✓      | HP-UX (HP9000/Motif)                                                   | <a href="#">eclipse-SDK-3.0-hpux-motif.zip</a> ( <a href="#">md5</a> )          |
| ✓      | Mac OSX (Mac/Carbon) ( <a href="#">Supported Versions</a> )            | <a href="#">eclipse-SDK-3.0-macosx-carbon.tar.gz</a> ( <a href="#">md5</a> )    |
| ✓      | Source Build (Source in .zip) ( <a href="#">instructions</a> )         | <a href="#">eclipse-sourceBuild-srcIncluded-3.0.zip</a> ( <a href="#">md5</a> ) |
| ✓      | Source Build (Source fetched via CVS) ( <a href="#">instructions</a> ) | <a href="#">eclipse-sourceBuild-srcFetch-3.0.zip</a> ( <a href="#">md5</a> )    |

## Documentation in PDF form

[org.eclipse.jdt.doc.isv.3.0.pdf.zip](#)  
[org.eclipse.jdt.doc.user.3.0.pdf.zip](#)  
[org.eclipse.platform.doc.isv.3.0.pdf.zip](#)  
[org.eclipse.platform.doc.user.3.0.pdf.zip](#)

## JUnit Plugin Tests and Automated Testing Framework

This drop contains the JUnit Eclipse test plugins and the Automated Testing Framework used to run the tests from the command line. Click [here](#) for more information and installation instructions. Includes both source code and binary.

| Status | Platform | Download                                                                |
|--------|----------|-------------------------------------------------------------------------|
| ✓      | All      | <a href="#">eclipse-Automated-Tests-3.0.zip</a> ( <a href="#">md5</a> ) |

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Done

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# Instalacja Eclipse 3.0 - PL

Eclipse Tools Project - Mozilla Firefox

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| ✓      | Linux (x86/GTK 2) <a href="#">(Supported Versions)</a>               | <a href="#">eclipse-SDK-3.0-linux-gtk.zip</a> <a href="#">(md5)</a>           |
| ✓      | Linux (AMD 64/GTK 2) <a href="#">(Supported Versions)</a>            | <a href="#">eclipse-SDK-3.0-linux-gtk-amd64.zip</a> <a href="#">(md5)</a>     |
| ✓      | Solaris 8 (SPARC/Motif)                                              | <a href="#">eclipse-SDK-3.0-solaris-motif.zip</a> <a href="#">(md5)</a>       |
| ✓      | AIX (PPC/Motif)                                                      | <a href="#">eclipse-SDK-3.0-aix-motif.zip</a> <a href="#">(md5)</a>           |
| ✓      | HP-UX (HP9000/Motif)                                                 | <a href="#">eclipse-SDK-3.0-hpux-motif.zip</a> <a href="#">(md5)</a>          |
| ✓      | Mac OSX (Mac/Carbon) <a href="#">(Supported Versions)</a>            | <a href="#">eclipse-SDK-3.0-macosx-carbon.tar.gz</a> <a href="#">(md5)</a>    |
| ✓      | Source Build (Source in .zip) <a href="#">(instructions)</a>         | <a href="#">eclipse-sourceBuild-srcIncluded-3.0.zip</a> <a href="#">(md5)</a> |
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Done

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# Instalacja Eclipse 3.0 - PL

Eclipse Project Downloads - Mozilla Firefox

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|                       |                                   |
|-----------------------|-----------------------------------|
| <a href="#">3.1</a>   | Mon, 27 Jun 2005 -- 14:35 (-0400) |
| <a href="#">3.0.2</a> | Fri, 11 Mar 2005 -- 08:45 (-0500) |
| <a href="#">3.0.1</a> | Thu, 16 Sep 2004 -- 11:25 (-0400) |
| <a href="#">3.0</a>   | Fri, 25 Jun 2004 -- 12:08 (-0400) |
| <a href="#">2.1.3</a> | Wed, 10 Mar 2004 -- 18:28 (-0500) |
| <a href="#">2.1.2</a> | Mon, 3 Nov 2003 -- 08:02 (-0500)  |
| <a href="#">2.1.1</a> | Fri, 27 Jun 2003 -- 15:45 (-0400) |
| <a href="#">2.1</a>   | Thu, 27 Mar 2003 -- 21:30 (-0500) |
| <a href="#">2.0.2</a> | Thu, 7 Nov 2002 -- 14:48 (-0500)  |
| <a href="#">2.0.1</a> | Thu, 29 Aug 2002 -- 18:28 (-0400) |
| <a href="#">2.0</a>   | Thu, 27 Jun 2002 -- 18:35 (-0400) |
| <a href="#">1.0</a>   | Wed, 7 Nov 2001 -- 00:01 (-0500)  |

### Archived 3.3 Stream Stable Builds

| Build Name              | Build Date                        |
|-------------------------|-----------------------------------|
| <a href="#">3.3RC4</a>  | Fri, 8 Jun 2007 -- 17:18 (-0400)  |
| <a href="#">3.3RC3</a>  | Fri, 1 Jun 2007 -- 15:39 (-0400)  |
| <a href="#">3.3RC2</a>  | Fri, 25 May 2007 -- 13:50 (-0400) |
| <a href="#">3.3RC1</a>  | Thu, 17 May 2007 -- 17:00 (-0400) |
| <a href="#">3.3M7</a>   | Thu, 3 May 2007 -- 14:00 (-0400)  |
| <a href="#">3.3M6</a>   | Fri, 23 Mar 2007 -- 16:16 (-0400) |
| <a href="#">3.3M5eh</a> | Thu, 22 Feb 2007 -- 09:51 (-0500) |
| <a href="#">3.3M5</a>   | Fri, 9 Feb 2007 -- 10:06 (-0500)  |
| <a href="#">3.3M4</a>   | Thu, 14 Dec 2006 -- 14:45 (-0500) |
| <a href="#">3.3M3</a>   | Thu, 2 Nov 2006 -- 17:15 (-0500)  |
| <a href="#">3.3M2</a>   | Fri, 22 Sep 2006 -- 00:10 (-0400) |
| <a href="#">3.3M1</a>   | Thu, 10 Aug 2006 -- 12:30 (-0400) |

### Archived Language Packs

| Build Name                           | Build Date                        |
|--------------------------------------|-----------------------------------|
| <a href="#">3.1.1 Language Packs</a> | Wed, 5 Oct 2005 -- 13:00 (-0400)  |
| <a href="#">3.0.1 Translations</a>   | Thu, 16 Sep 2004 -- 11:25 (-0400) |
| <a href="#">2.1.2 Translations</a>   | Mon, 15 Dec 2003 -- 13:00 (-0500) |
| <a href="#">2.1.1 Translations</a>   | Wed, 2 Jul 2003 -- 13:00 (-0400)  |
| <a href="#">2.0.x Translations</a>   | Tue, 7 Jan 2003 -- 10:00 (-0500)  |

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# Instalacja Eclipse 3.0 - PL

Eclipse Language Pack - Mozilla Firefox

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## Language Pack: 3.0.x

September 27, 2004. These downloads are provided under the [Eclipse.org Software User Agreement](#).

### Eclipse Language Pack

IBM has donated translations from their products to Eclipse. The language pack is distributed as a feature which you can install by downloading the zip file, unzipping it into your Eclipse directory and restarting Eclipse. This language pack contains translations for German, Spanish, French, Italian, Japanese, Korean, Portuguese (Brazil), Traditional Chinese and Simplified Chinese.

These translations are based on the Eclipse 3.0.1 build but should work with all subsequent 3.0 maintenance releases. If new strings are added to Eclipse after 3.0.1, they will not show up as translated in the 3.0.x stream when you install this language pack.

#### SDK Language Pack

|                                |                                                        |
|--------------------------------|--------------------------------------------------------|
| Windows 98/ME/2000/XP SDK NLS  | <a href="#">NLpack-eclipse-SDK-3.0.x-win32.zip</a>     |
| Linux (x86/GTK 2) Full SDK NLS | <a href="#">NLpack-eclipse-SDK-3.0.x-linux-gtk.zip</a> |

#### RCP Runtime Binary Language Pack

|                                              |                                                        |
|----------------------------------------------|--------------------------------------------------------|
| Windows 98/ME/2000/XP RCP Runtime Binary NLS | <a href="#">NLpack-eclipse-RCP-3.0.x-win32.zip</a>     |
| Linux (x86/GTK 2) RCP Runtime Binary NLS     | <a href="#">NLpack-eclipse-RCP-3.0.x-linux-gtk.zip</a> |

#### RCP SDK Language Pack

|                                   |                                                            |
|-----------------------------------|------------------------------------------------------------|
| Windows 98/ME/2000/XP RCP SDK NLS | <a href="#">NLpack-eclipse-RCP-SDK-3.0.x-win32.zip</a>     |
| Linux (x86/GTK 2) RCP SDK NLS     | <a href="#">NLpack-eclipse-RCP-SDK-3.0.x-linux-gtk.zip</a> |

#### Platform Runtime Language Pack

|                                            |                                                             |
|--------------------------------------------|-------------------------------------------------------------|
| Windows 98/ME/2000/XP Platform Runtime NLS | <a href="#">NLpack-eclipse-platform-3.0.x-win32.zip</a>     |
| Linux (x86/GTK 2) Platform Runtime NLS     | <a href="#">NLpack-eclipse-platform-3.0.x-linux-gtk.zip</a> |

#### Platform SDK Language Pack

|                                        |                                                                 |
|----------------------------------------|-----------------------------------------------------------------|
| Windows 98/ME/2000/XP Platform SDK NLS | <a href="#">NLpack-eclipse-platform-SDK-3.0.x-win32.zip</a>     |
| Linux (x86/GTK 2) Platform SDK NLS     | <a href="#">NLpack-eclipse-platform-SDK-3.0.x-linux-gtk.zip</a> |

#### JDT Language Pack

|                 |                                                  |
|-----------------|--------------------------------------------------|
| JDT Runtime NLS | <a href="#">NLpack-eclipse-JDT-3.0.x.zip</a>     |
| JDT SDK NLS     | <a href="#">NLpack-eclipse-JDT-SDK-3.0.x.zip</a> |

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Done

Mostly Cloudy, 6°C -1°C 8°C

# Eclipse instalacja

- Eclipse – plik zip należy rozpakować
  - Podkatalogi
    - Plugins
    - Features
- Eclipse PL
  - Nadpisz zawartością zipa katalog eclipse

# Eclipse w działaniu

- Edytor
- Widoki
- Perspektywy
- Nowy projekt
- Nowy plik z kodem źródłowym
- Uruchomienie programu

# Typy danych

- W jaki sposób komputer przechowuje dane?
- Typy danych
  - Typ logiczny – boolean – dwie wartości {true, false}
  - Typy liczbowe całkowite
    - byte (1 bajt)
    - short (2 bajty)
    - int (4 bajty)
    - long (8 bajtów)
  - Typy zmiennoprzecinkowe
    - float (4 bajty)
    - double (8 bajtów)

# Typy danych

- Załóżmy, że mamy zmienną A typu float i zmienną B typu int
  - Czy możemy zmiennej A przypisać wartość zmiennej B?
  - Czy możemy zmiennej B przypisać wartość zmiennej A?
- Konwersja niejawna typów!
- Konwersja jawna typów – wartość lub nazwę zmiennej poprzedzamy typem w nawiasie:  
np. (byte) 128 => ?

# Typy znakowe

- char – pojedynczy znak – reprezentowany jako kod znaku (jak komputer rozróżnia znaki?)
  - Umieszczany pomiędzy ‘ ‘ -> ‘A’, ‘b’, ‘1’
  - Pytanie czy ‘1’ == 1?
- String – ciąg znaków – każdy znak reprezentowany jako kod znaku
  - Umieszczany pomiędzy ” ” -> ”Ala ma kota”
  - Pytanie czy ”1000” == 1000?

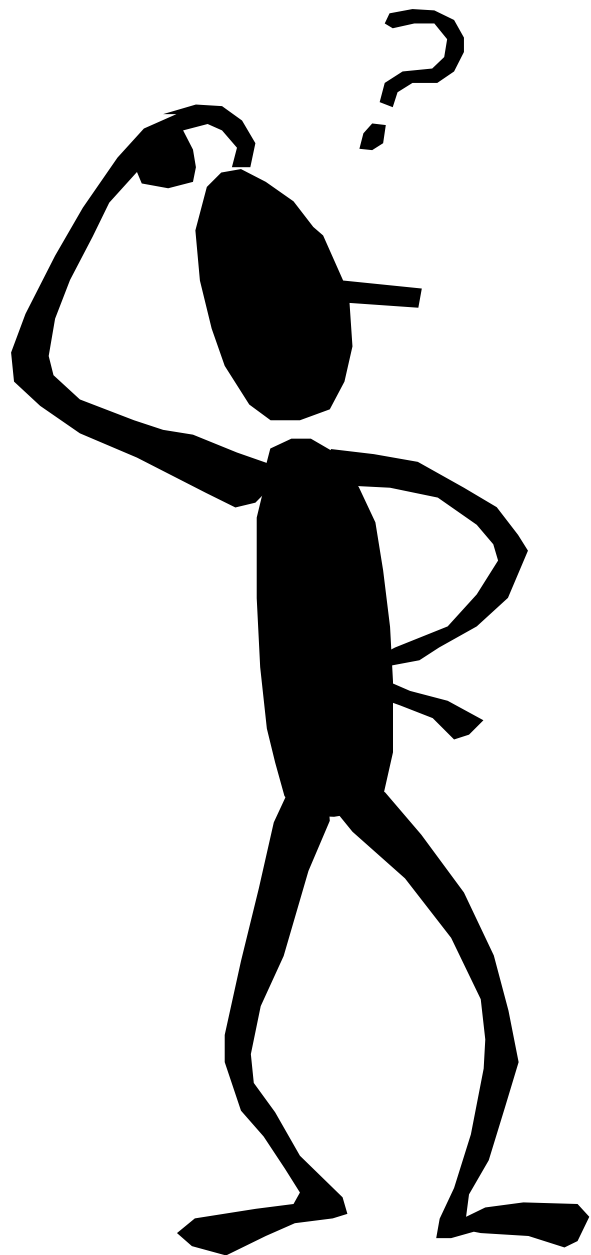
# Konwersje cd.

- Konwersja w wyniku operacji dodawania
  - `1+"Ala ma kota" -> "1Ala ma kota"`
- Funkcje zamieniające:
  - `String na int -> Integer.parseInt("1100")`
  - `String na double -> Double.parseDouble("1000");`
  - `Int, Double ... na String -> String.valueOf(123);`

# Deklaracja zmiennych

- Typ nazwa = wartość początkowa(opcja);
- Np.:
  - `int a = 2312;`
  - `int b;`
  - `boolean czy = true;`
  - `double d = 333.333`

# Koniec



**Dziękuję za uwagę**

