

PENGANTAR PEMROGRAMAN KOMPUTER

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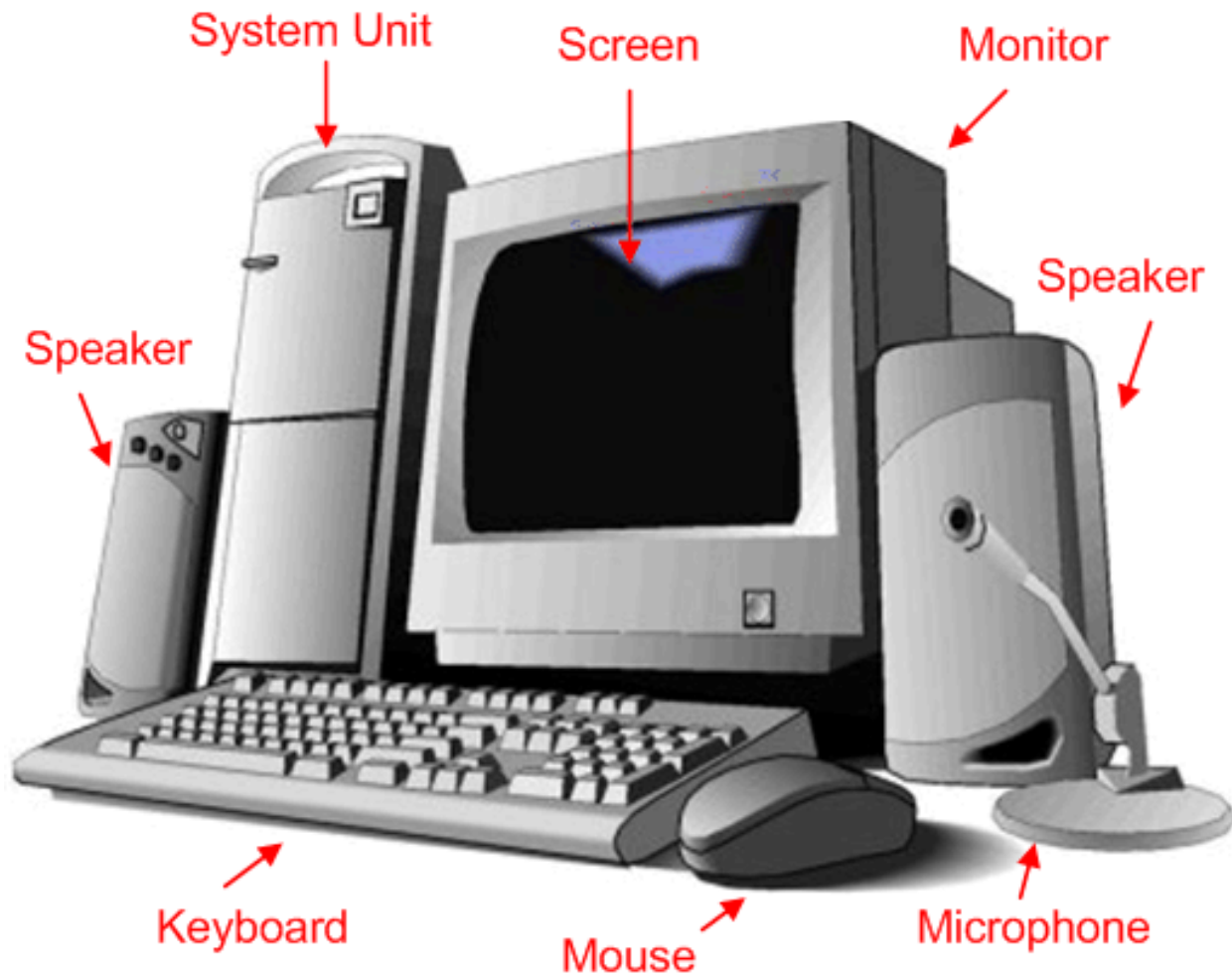
Sistem Informasi – STMIK Surabaya

2012

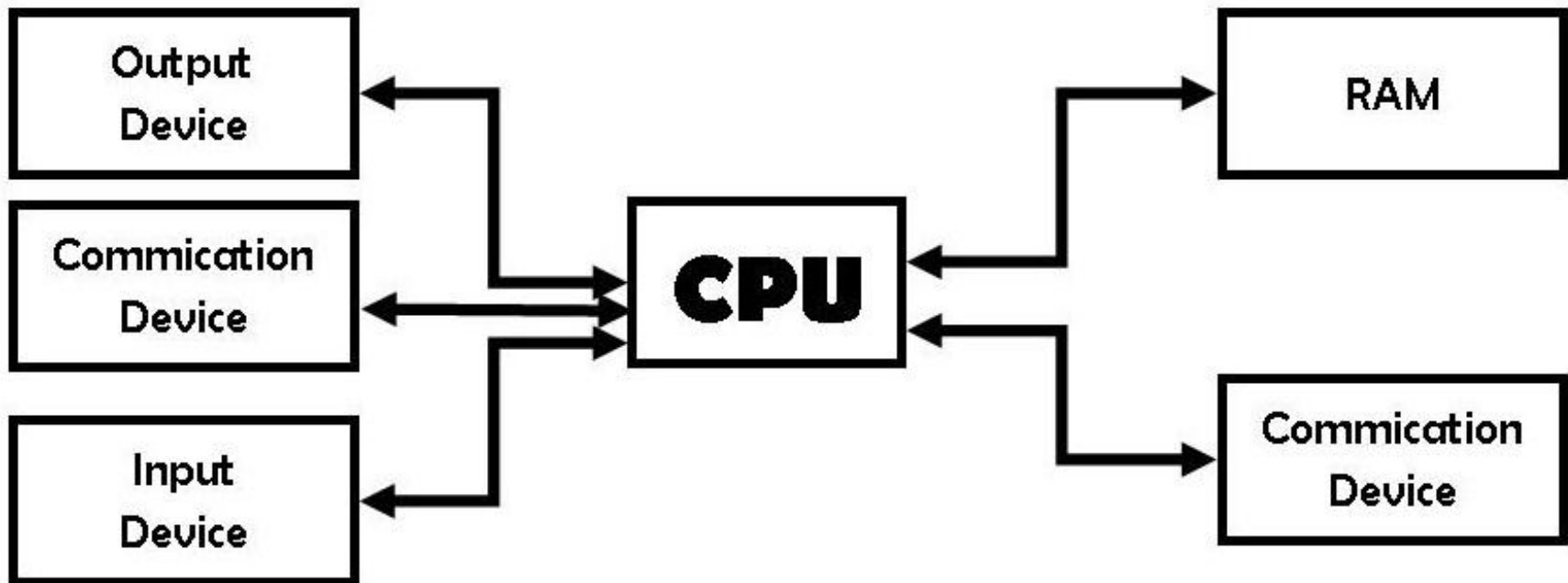
Outline

- Komputer
- Bahasa Komputer
- Algoritma
- Intro to Java

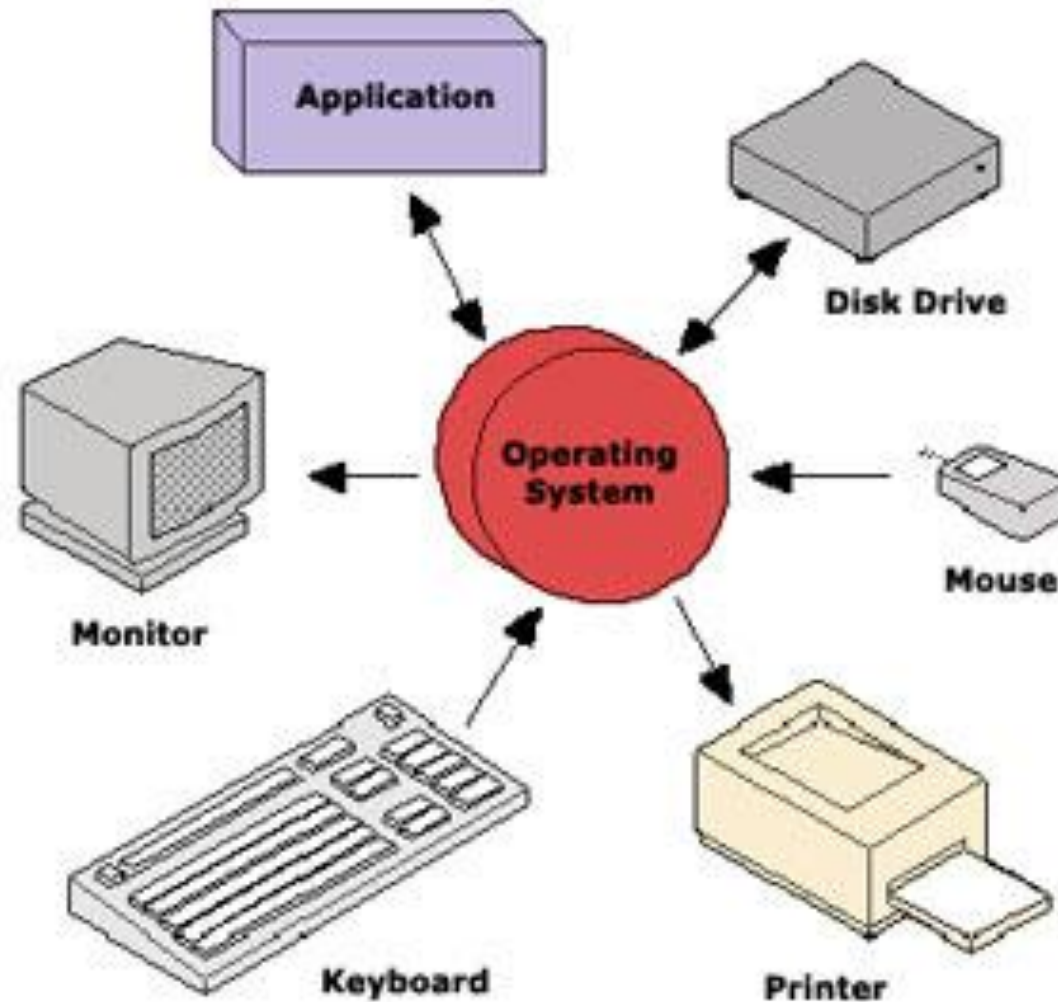
Computer?



Computer Hardware



Computer Software



Language

- English: Hello, how are you?
- Indonesian: Haii, apa kabar?
- French: Bonjour! Ça va bien?
- German: Guten tag. Wie geht's?
- Japanese: Konnichi wa. O genki desu ka?

Programming Language

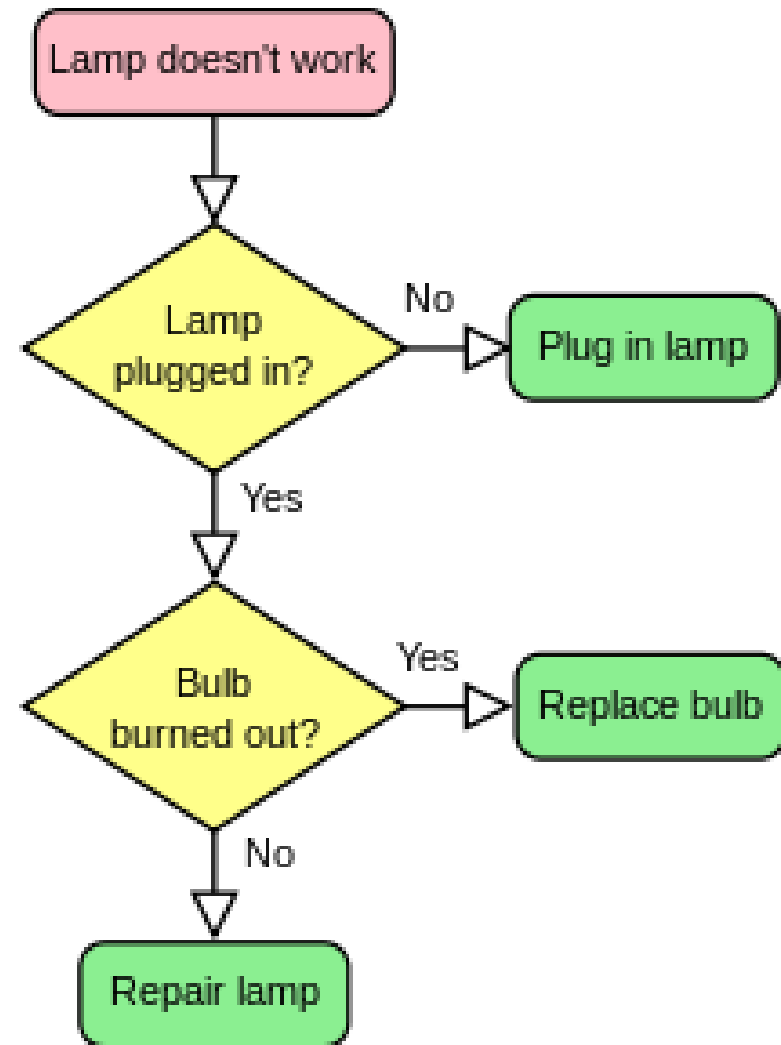
- A programming language is an artificial language designed to communicate instructions to a machine, particularly a computer. Programming languages can be used to create programs that control the behavior of a machine and/or to express algorithms precisely.



PROGRAM=DATA+ALGORITMA

Algoritma

- **algoritma /algoritme** merupakan kumpulan perintah untuk menyelesaikan suatu masalah



Algoritma

- Berurutan
- Percabangan
- Perulangan

```
SIMPLEHAC( $d_1, \dots, d_N$ )
1  for  $n \leftarrow 1$  to  $N$ 
2  do for  $i \leftarrow 1$  to  $N$ 
3      do  $C[n][i] \leftarrow \text{SIM}(d_n, d_i)$ 
4       $I[n] \leftarrow 1$  (keeps track of active clusters)
5   $A \leftarrow []$  (assembles clustering as a sequence of merges)
6  for  $k \leftarrow 1$  to  $N - 1$ 
7  do  $\langle i, m \rangle \leftarrow \arg \max_{\{ \langle i, m \rangle : i \neq m \wedge I[i]=1 \wedge I[m]=1 \}} C[i][m]$ 
8       $A.\text{APPEND}(\langle i, m \rangle)$  (store merge)
9      for  $j \leftarrow 1$  to  $N$ 
10     do  $C[i][j] \leftarrow \text{SIM}(i, m, j)$ 
11          $C[j][i] \leftarrow \text{SIM}(i, m, j)$ 
12      $I[m] \leftarrow 0$  (deactivate cluster)
13 return  $A$ 
```

Introduction to Java



Java™



Java

- Java is a programming language originally developed by James Gosling at Sun Microsystems (which has since merged into Oracle Corporation) and released in 1995 as a core component of Sun Microsystems' Java platform.
- The language derives much of its syntax from C and C++ but has a simpler object model and fewer low-level facilities.
- Java applications are typically compiled to bytecode (class file) that can run on any Java Virtual Machine (JVM) regardless of computer architecture. Java is a general-purpose, concurrent, class-based, object-oriented language that is specifically designed to have as few implementation dependencies as possible.

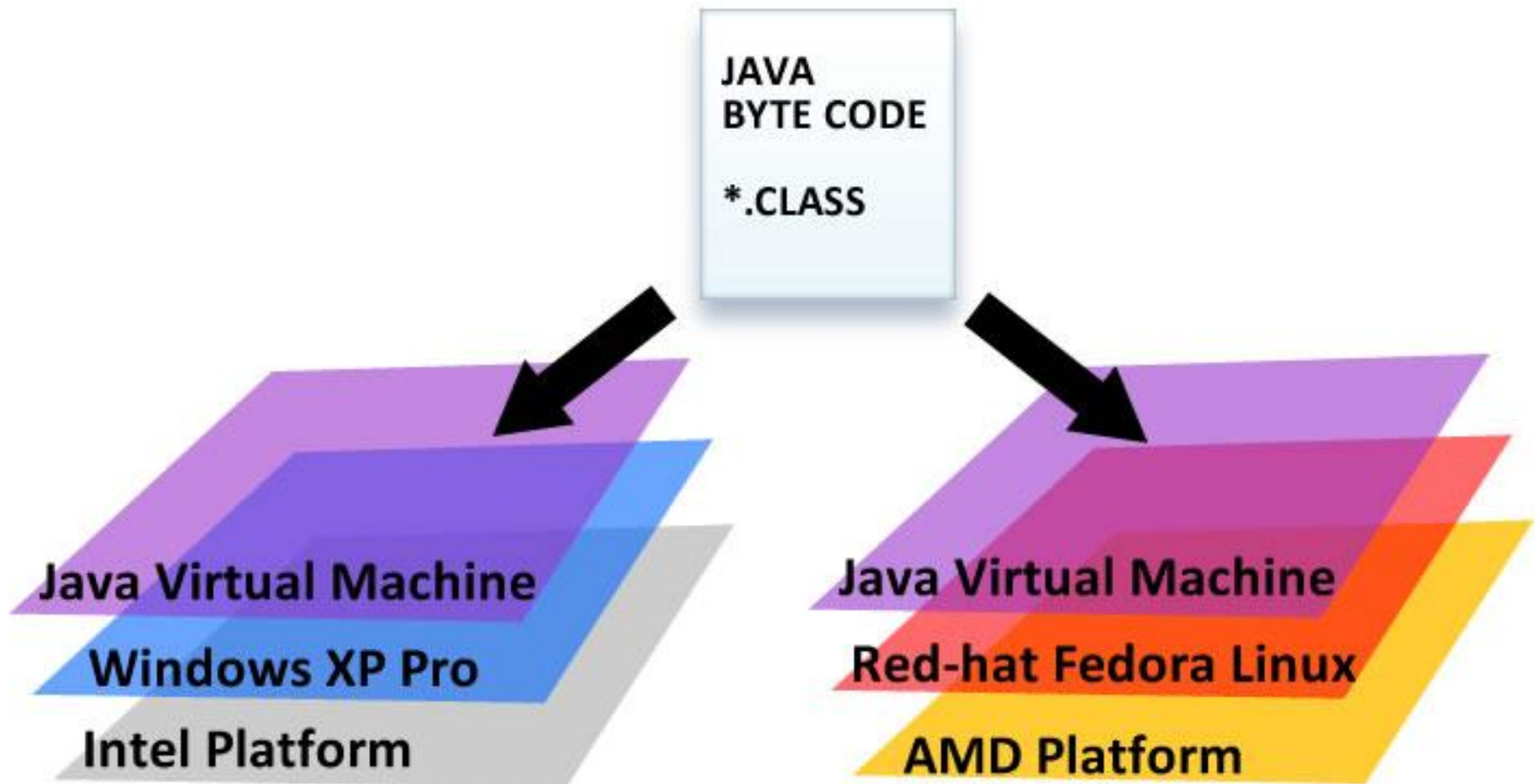
Sumber: [http://en.wikipedia.org/wiki/Java_\(programming_language\)](http://en.wikipedia.org/wiki/Java_(programming_language))

Java Virtual Machine

Operating System

Any Platform

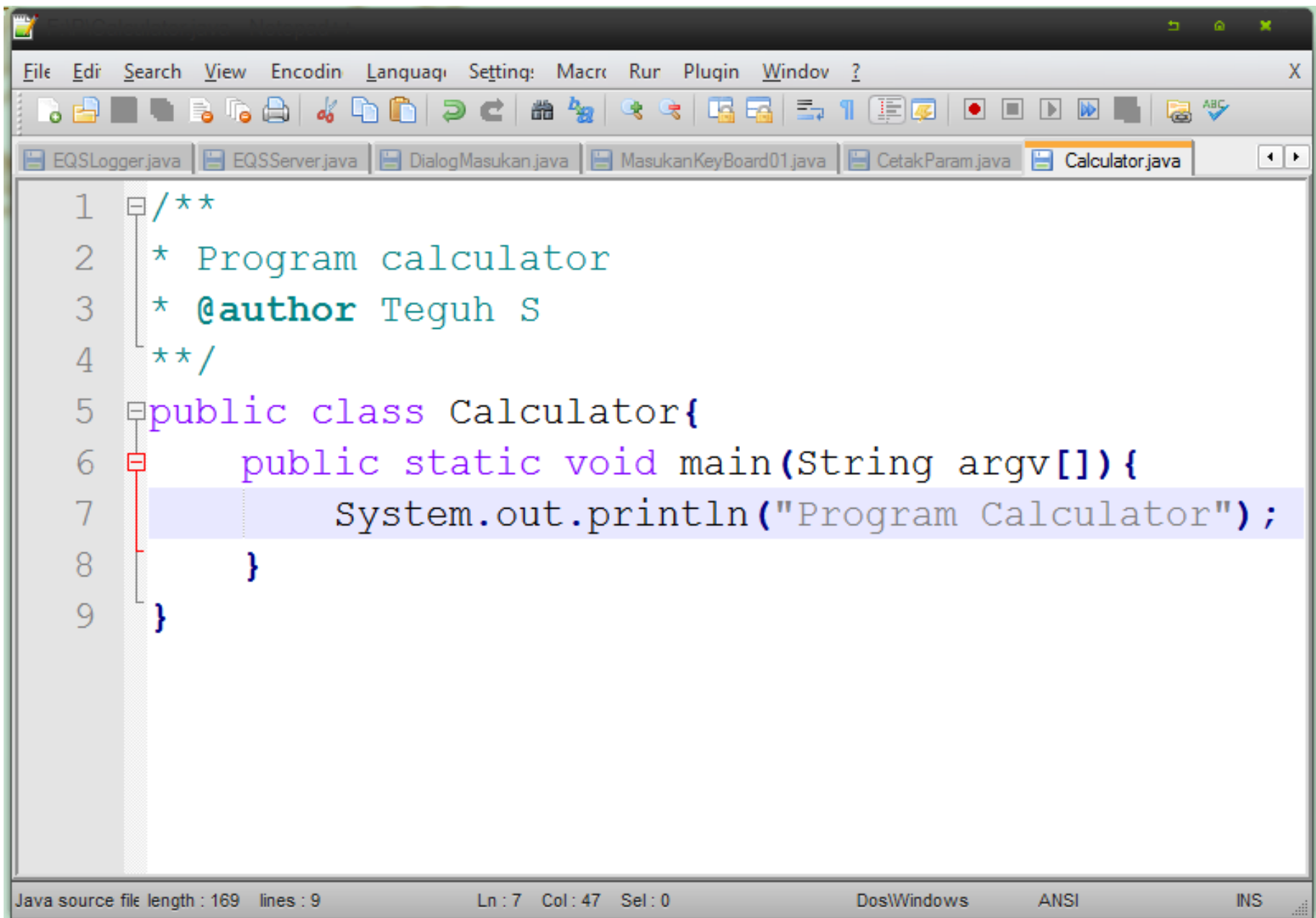
Running Java Byte Code











```
1  /**
2   * Program calculator
3   * @author Teguh S
4   **/
5  public class Calculator{
6      public static void main(String argv[]){
7          System.out.println("Program Calculator");
8      }
9  }
```

Java source file length : 169 lines : 9 Ln : 7 Col : 47 Sel : 0 DosWindows ANSI INS

```
C:\
F:\P>dir Calculator.java
Volume in drive F is Delta2
Volume Serial Number is BA64-565E

Directory of F:\P

02/15/2012  12:32 PM
            1 File(s)
            0 Dir(s)
190,161,166,336 bytes free

F:\P>_
```

```
C:\
F:\P>javac Calculator.java

F:\P>dir Calculator.*
Volume in drive F is Delta2
Volume Serial Number is BA64-565E

Directory of F:\P

02/15/2012  12:37 PM                432 Calculator.class
02/15/2012  12:32 PM                169 Calculator.java
            2 File(s)                601 bytes
            0 Dir(s) 190,161,166,336 bytes free

F:\P>
```

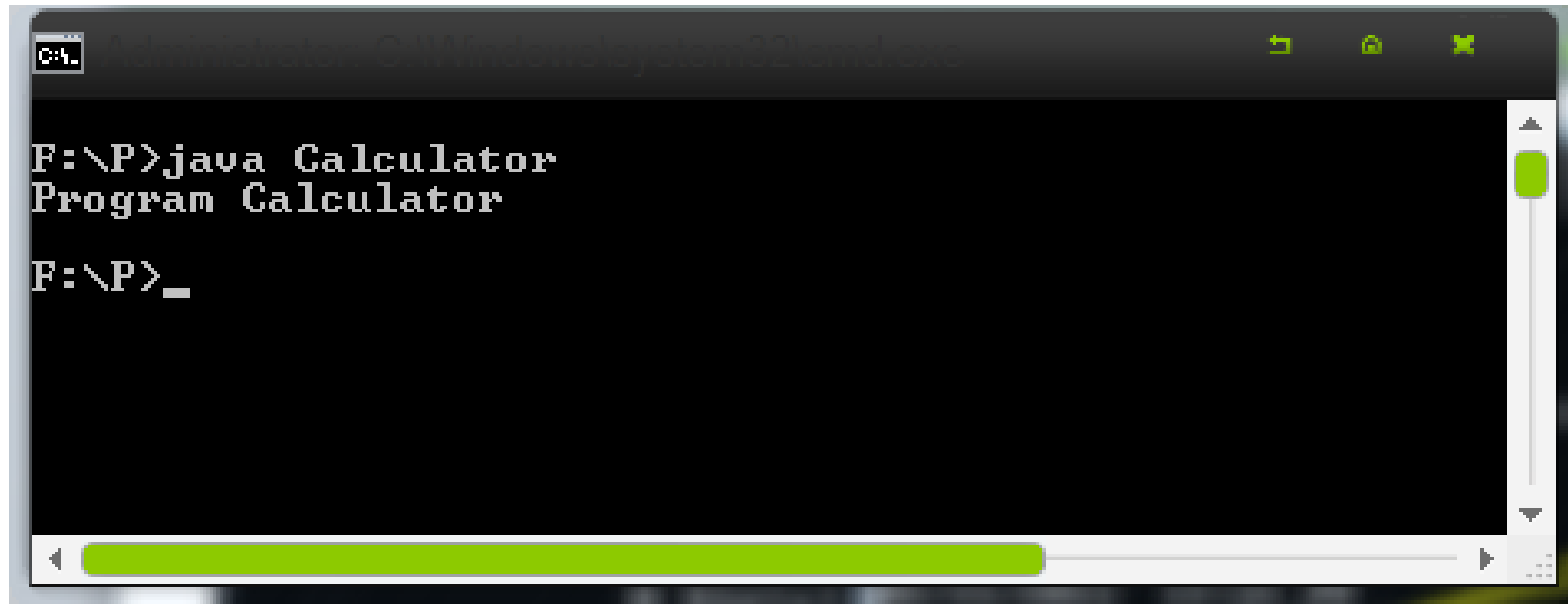
```
C:\
F:\P>dir Calculator.java
Volume in drive F is Delta2
Volume Serial Number is BA64-565E

Directory of F:\P

02/15/2012  12:32 PM                169 Calculator.java
            1 File(s)                169 bytes
            0 Dir(s) 190,161,166,336 bytes free

F:\P>javac Calculator.java

F:\P>
```



The image shows a screenshot of a Windows command prompt window. The window title bar is dark gray with a small icon on the left and three standard window control buttons (minimize, maximize, close) on the right. The main area of the window is black with white text. The text shows the current directory as 'F:\P', followed by the command 'java Calculator' and its output 'Program Calculator'. A second prompt 'F:\P>' with a cursor is shown on the next line. A vertical scrollbar is visible on the right side of the text area, and a horizontal scrollbar is at the bottom.

```
C:\n  
F:\P>java Calculator  
Program Calculator  
F:\P>_
```

See You Next Week

- Tugas:
 - Bikin resume dalam format A4
 - Cukup 1 lembar