



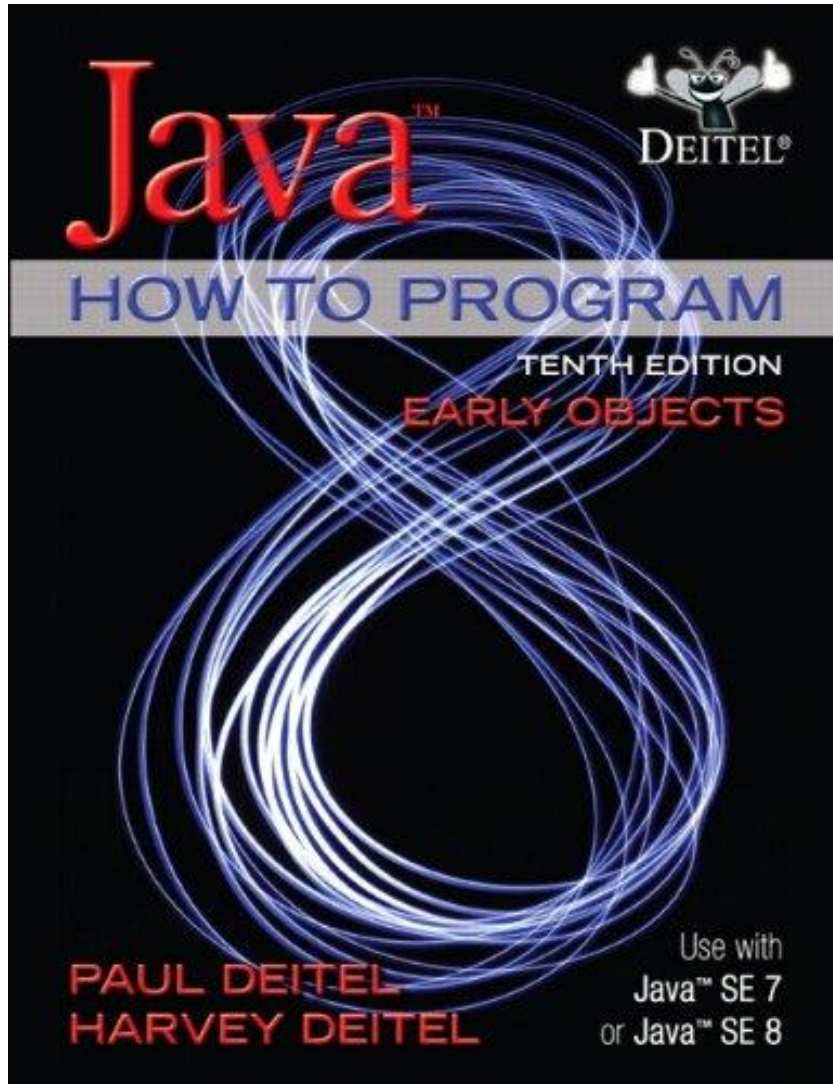
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# Object Oriented Programming (Java)

First Java Program & Code  
Description



# Text Book



Title: Java How to Program, Early Objects

Author(s): Paul Deitel, Harvey Deitel

Publisher: Pearson Education

Year: 2015

ISBN: 0133807800,9780133807806

Object Oriented Programming using Java by Simon Kendal



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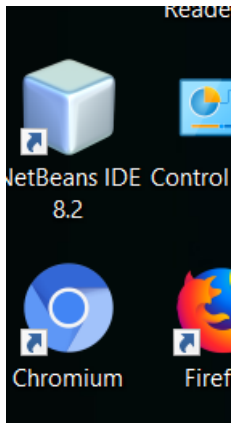
# Your First Program in Java



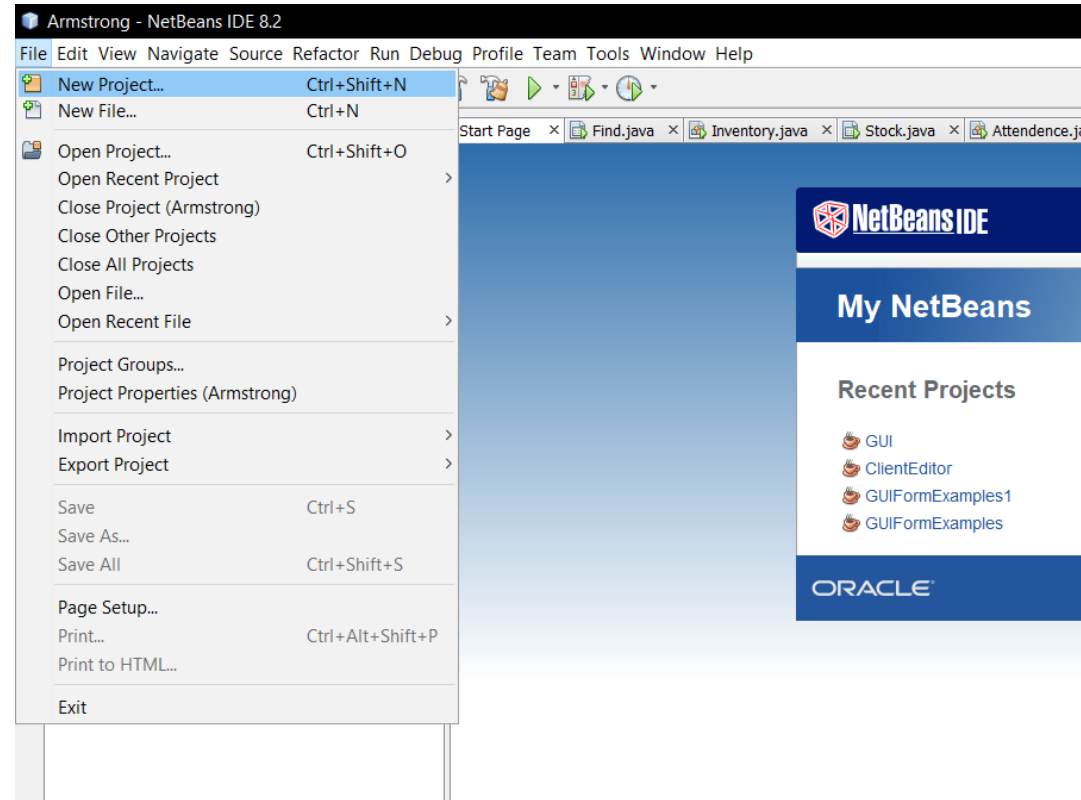
# Using Netbeans



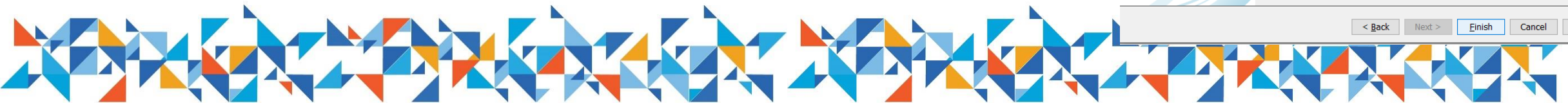
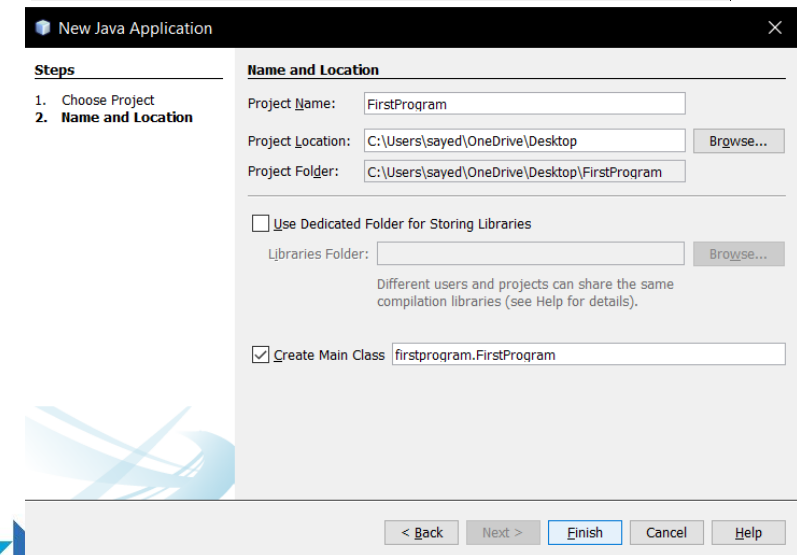
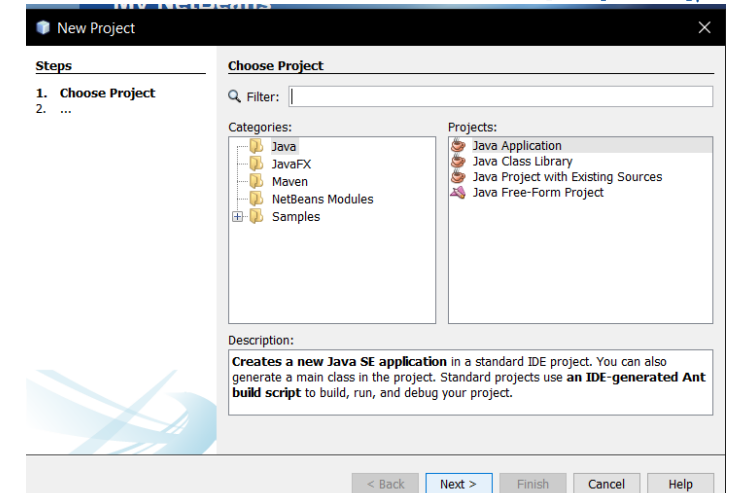
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Click Netbeans to Open

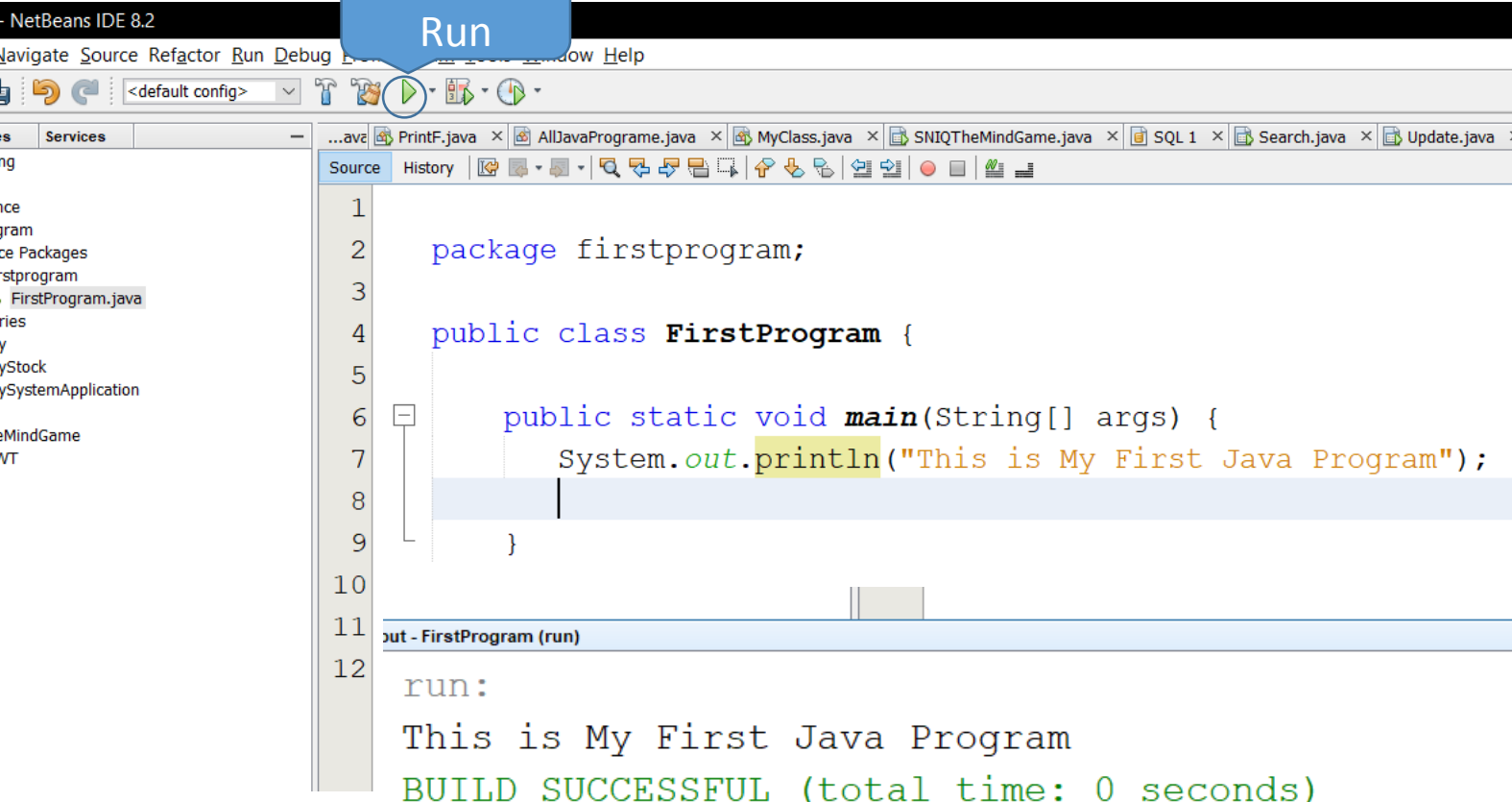


Click on the new Project



# Your first Java Program

Click to Run



```
NetBeans IDE 8.2
Navigate Source Refactor Run Debug
<default config>
PrintF.java x AllJavaPrograme.java x MyClass.java x SNIQTheMindGame.java x SQL 1 x Search.java x Update.java x
Source History
1
2 package firstprogram;
3
4 public class FirstProgram {
5
6     public static void main(String[] args) {
7         System.out.println("This is My First Java Program");
8     }
9
10
11 out - FirstProgram (run)
12
run:
This is My First Java Program
BUILD SUCCESSFUL (total time: 0 seconds)
```



# Code Description

- **class** keyword is used to declare a class in Java.
- **public** keyword is an access modifier that represents visibility. It means it is visible to all.
- **static** is a keyword. If we declare any method as static, it is known as the static method. The core advantage of the static method is that there is no need to create an object to invoke the static method.
- The main() method is executed by the JVM, so it doesn't require creating an object to invoke the main() method. So, it saves memory.
- **void** is the return type of the method. It means it doesn't return any value.
- **main** represents the starting point of the program.
- **String[] args** or **String args[]** is used for [command line argument](#).
- **System.out.println()** is used to print a statement. Here, System is a class, out is an object of the PrintStream class, println() is a method of the PrintStream class.



# Class Name convention

- A class name is an **identifier**—a series of characters consisting of
  - Letters,
  - Digits,
  - Underscores (\_) and
  - Dollar signs (\$)
  - The class name does *not* begin with a digit and does *not* contain spaces.
  
- Which one is correct?
  - 1---- 1Program
  - 2---- calc\_adv
  - 3---- Father Name
  - 4 ---- \$Computer



# Good Programming Tips

- ***Commenting Your Programs***

- By double slashes

```
// Fig. 2.1: Welcome1.java
```

- By a slash and Asterisk

```
/* This is a traditional comment.
```

```
It can be split over multiple lines */
```

- ***Use blank lines and spaces to enhance program readability.***



# Practice



## Variable Declaration & Variable Initialization



# 1. Variable Declaration

- Declaration is the process of specifying the type of the variable and its name.
- **Syntax:**
- *dataType*    *variableName*;
- **Examples:**
- *int number*;        // Declares a variable of type int
- *String name*;       // Declares a variable of type String



## 2. Variable Initialization

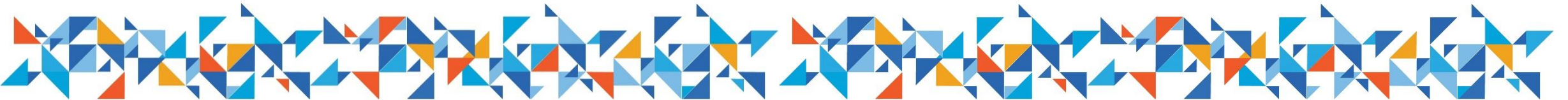
- Initialization assigns a value to the variable. This can be done at the time of declaration or later in the code.
- **Syntax:**
- *dataType variableName = value;*
  
- **Examples:**
- *int number = 10;*                      **// Declares and initializes the variable**
- *String stdname = "Sohail";*                      **// Declares and initializes the variable**



# Practice



## Run your own Java Program



# Second Program (Getting input from user)

```
First_Program.java
2 import java.util.Scanner;
3 public class First_Program
4 {
5     public static void main(String[] args)
6     {
7         int a,b,result;
8         Scanner value=new Scanner(System.in);
9         System.out.println("Enter First Number:");
10        a=value.nextInt();
11        System.out.println("Enter Second Number:");
12        b=value.nextInt();
13
14        result=a+b;|
15        System.out.println("Your Result is: "+result);
16    }
17 }
```

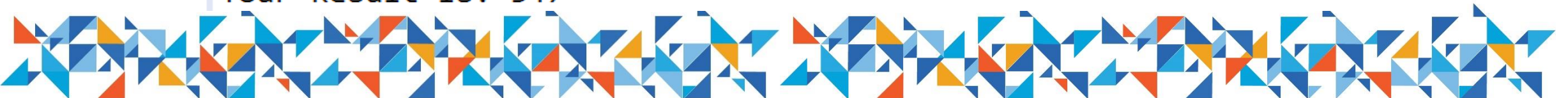
Problems @ Javadoc Declaration Console

<terminated> First\_Program [Java Application] C:\Program Files\Java\jre1.8.0\_151\bin\javaw.exe (Apr 1, 2019, 6:28:37 PM)

Enter First Number:  
324

Enter Second Number:  
223

Your Result is: 547



## Code Descriptoin

- Java has set of predefined classes that you can *reuse*, called *java libraries*
  - `import java.util.Scanner;`
- A **Scanner** enables a program to read data (e.g., numbers and strings) for use in a program.
  - `Scanner input=new Scanner(System.in)`
- Scanner object input's `nextInt()` method to obtain an integer from the user at the keyboard.
  - `A=input.nextInt();`



# Arithmetic Operators

- Most programs perform arithmetic calculations.

Java operation	Operator	Algebraic expression	Java expression
Addition	+	$f + 7$	<code>f + 7</code>
Subtraction	-	$p - c$	<code>p - c</code>
Multiplication	*	$bm$	<code>b * m</code>
Division	/	$x / y$ or $\frac{x}{y}$ or $x \div y$	<code>x / y</code>
Remainder	%	$r \text{ mod } s$	<code>r % s</code>



# Class Activity

- Write a program that can multiply 3 integers entered by the user?
  - Example:

$$23*45*23= 23805$$

- Write a program that can take your Id, Name, age and birth year from keyboard and display it in the output?
  - Example:

```
Student's Info:  
  
Std Id is : 2204031  
Std name is : Abdullah  
Std age is: 27  
Std DOB: 22/April/1994
```





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**Thank You...!**