

Basic Fundamental Programming

Day 1: May 2021

Kiran Waghmare



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May21 LB Notes.txt P1.java

268 3.Scientific Applications
269 4.Web Applications
270 5.Cloud based Applications
271 6.Gaming Applications
272
273 Features of Java
274 -----
275 1.Simple
276 2.Object Oriented
277

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The diagram, titled "Java Lib", is enclosed in a yellow rectangular border. It illustrates the relationship between classes and objects in Java. At the top, a red rectangular box contains the word "class" in red text, followed by three empty yellow square boxes. Below this box, the text "inbuilt classes" is written in blue. A green oval at the bottom contains the word "obj" in red text. Two green arrows originate from the "class" box and point towards the "obj" oval, indicating that objects are instances of classes.

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The diagram illustrates the Java architecture. A large yellow rectangle represents the 'Java Lib' (Java Library). Inside this rectangle, at the top, is a red rectangle labeled 'inbuilt classes'. Within the 'inbuilt classes' rectangle, there are three yellow boxes; the first one contains the word 'class' in red. Below the 'inbuilt classes' rectangle, within the 'Java Lib' rectangle, is a green circle labeled 'obj' in red. Below the 'Java Lib' rectangle is a green rectangle labeled 'user program'. A green arrow points from the 'class' box to the 'obj' circle. Another green arrow points from the 'obj' circle to the 'user program' rectangle. A third green arrow points from the 'user program' rectangle back to the 'obj' circle, indicating a bidirectional relationship between the user program and the objects.

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275 1.Simple
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277 -Abstraction
278 -Encapsulation
279 -Inheritance
280 -Polymorphism
281 3.Platform Independent
282

Program

.class

bytecode

compile

Execute

Linux

Windows

Mac

Normal text file length : 4,910 lines : 282 Ln : 281 Col : 23 Pos : 4,909 Windows (CR LF) UTF-8 INS

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280 -Polymorphism
281 3.Platform Independent
282 4.Secure Language
283 5.Robust
284 6.Interpreted language
285 7.Multithreading
286 8.Distributed language
287
288

ABHIJIT

A B C D E

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Java Virtual Machine (JVM)

Program → compile → Bytecode → Interpreter → Machine Code

JVM

.class file

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340 -----

341 1.Desktop/Standalone Application

342 2.Web Applet

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Java code

Standalone

Java Compiler

Web Applet

Java enabled web Browser

Output

Output

Normal text file length : 5,972 lines : 342 Ln : 342 Col : 13 Pos : 5,973 Windows (CR LF) UTF-8 INS

```
graph TD; A[Java code] --> B[Java Compiler]; B --> C[Standalone]; B --> D[Web Applet]; C --> E((Java Interpreter)); E --> F[Output]; D --> G((Java enabled web Browser)); G --> H[Output];
```

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May21 LB Notes.txt P1.java

340 -----

341 1.Desktop/Standalone Application

342 2.Web Applet

Java code

Standalone

Java Compiler

Web Applet

Java Interpreter

Java enabled web Browser

Output

Output

Normal text file length : 5,972 lines : 342 Ln : 342 Col : 13 Pos : 5,973 Windows (CR LF) UTF-8 INS

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340 -----

341 1.Desktop/Standalone Application

342 2.Web Applet

343

344

345 Structure for Java Program

346 -----

347

348 1.Documentation Section

349 2.Package Statement

350 3.Import Statement

351

Diagram illustrating the structure for a Java program:

```
graph TD
    Packages --> inbuilt
    Packages --> user_defined[user defined]
```

Diagram illustrating the structure for a Java program (edac package):

```
graph TD
    edac --> input
    edac --> process
    edac --> report
```

Diagram illustrating the structure for a Java program (eDAC May 2021):

```
graph TD
    eDAC[eDAC May 2021] --> 1[1.Input Module]
    eDAC --> 2[2.Processing Module]
    eDAC --> 3[3.Report Moule]
```

Code snippet:

```
package edac;
package edac.input;
```

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343
344
345 Structure for Java Program
346 -----
347
348 1.Documentation Section
349 2.Package Statement
350 3.Import Statement
351
352 package edac.report.regular;
```

first.java a.java

```
package edac.report.*;
```

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345 Structure for Java Program
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347
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349 2.Package Statement
350 3.Import Statement
351 4.Interface Statement
352 5.class definition
353 6.Main function
```

The diagram illustrates the structure of a Java program using four nested green rectangles. The outermost rectangle is labeled 'packages'. Inside it is a rectangle labeled 'import'. Inside 'import' is a rectangle labeled 'class'. The innermost rectangle is labeled 'main()'.

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344
345 Structure for Java Program
346 -----
347
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350 3.Import Statement
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352 5.class definition
353 6.Main function
```

class {}

Normal text file length : 6,161 lines : 353 Ln : 353 Col : 16 Pos : 6,162 Windows (CR LF) UTF-8 INS

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May21 LB Notes.txt P1.java

352 5.class definition
353 6.Main function
354
355
356 class P1
357 {
358 public static void main(String args[])
359 {
360 int n=100;
361 }
362 }
363

Reserved Words

Keywords

Reserved (53)
Keywords(50)
Reserved Literals(3)
e.g., true, false, null

used (48) unused (2)
e.g., goto, const

Normal text file length : 6,235 lines : 363 Ln : 360 Col : 5 Pos : 6,227 Windows (CR LF) UTF-8 INS

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358 public static void main(String args[])
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360 int n=100;
361 }
362 }
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Normal text file length : 6,235 lines : 363 Ln : 360 Col : 5 Pos : 6,227 Windows (CR LF) UTF-8 INS

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355
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Normal text file length : 6,235 lines : 363 Ln : 360 Col : 5 Pos : 6,227 Windows (CR LF) UTF-8 INS

