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In effect

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Execute

Flask

Login

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```
        term += "^" + k;
    }
    System.out.print(term);
    if (k != n) {
        System.out.print(" ");
    }
    System.out.println();
}

public static void main(String[] args) {
    // Start compile time measurement
    long compileStart = System.nanoTime();
    // Simulate compile (no actual external javac needed here)
    long compileEnd = System.nanoTime();
    // Memory usage before execution
    Runtime runtime = Runtime.getRuntime();
    runtime.gc();
    long usedMemoryBefore = runtime.totalMemory() - runtime.freeMemory();
    // Start execution time
    long startTime = System.nanoTime();

    // ===== PROGRAM LOGIC =====
    String a = "x";
    String b = "2";
    int n = 3;
    System.out.println("Binomial expansion of (x + 2)^3:");
    expand(a, b, n);
    // =====
    // End execution time
    long endTime = System.nanoTime();
    // Memory usage after execution
    long usedMemoryAfter = runtime.totalMemory() - runtime.freeMemory();
```

Input/Output

Build beautiful web apps with JDoodle.ai

Language version: JDK 21.0.0 ☒ Interactive Mode

Input arguments

Output Generated files

Binomial expansion of (x + 2)^3:
1*x^3 + 3*x^2*2 + 3*x*2^2 + 1*2^3

===== METRICS =====
Compilation Time: 0.000 ms
Execution Time: 24.626 ms
Memory Used: 503336 bytes
Code Size (.class file): 2854 bytes
CPU Usage: 0.00%

Compiled and executed in 1.318 sec(s)

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Got it!

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Execute Free Basic Login

```
54 // Simulate compile (no actual external javac needed here)
55 long compileEnd = System.nanoTime();
56
57 // Memory usage before execution
58 Runtime runtime = Runtime.getRuntime();
59 runtime.gc();
60 long usedMemoryBefore = runtime.totalMemory() - runtime.freeMemory();
61
62 // Start execution time
63 long startTime = System.nanoTime();
64
65 // ===== PROGRAM LOGIC =====
66
67 String a = "x";
68 String b = "2";
69 int n = 3;
70 System.out.println("Binomial expansion of (x + 2)^3:");
71 expand(a, b, n);
72 // =====
73
74 // End execution time
75 long endTime = System.nanoTime();
76
77 // Memory usage after execution
78 long usedMemoryAfter = runtime.totalMemory() - runtime.freeMemory();
79
80 // CPU usage
81 OperatingSystemMXBean osBean =
82     (OperatingSystemMXBean) ManagementFactory.getOperatingSystemMXBean();
83 double cpuLoad = osBean.getProcessCpuLoad() * 100;
84
85 // File size of compiled class
86 File file = new File("Main.class");
87
88 // ===== METRICS OUTPUT =====
89 System.out.println("\n===== METRICS =====");
90 System.out.printf("Compilation Time: %.3f ms\n", (compileEnd - compileStart) / 1_000_000.0);
91 System.out.printf("Execution Time: %.3f ms\n", (endTime - startTime) / 1_000_000.0);
92 System.out.println("Memory Used: " + (usedMemoryAfter - usedMemoryBefore) + " bytes");
93 if (file.exists()) {
94     System.out.println("Code Size (.class file): " + file.length() + " bytes");
95 }
```

Input/Output

Build beautiful web apps with JDoodle.ai

Language version: JDK 21.0.0 Interactive Mode

Input arguments

Output Generated files

Binomial expansion of (x + 2)^3:
1*x^3 + 3*x^2*2 + 3*x*2^2 + 1*2^3

===== METRICS =====
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Execution Time: 24.626 ms
Memory Used: 503336 bytes
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Online Java Compiler IDE

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```
1 // ----- Armstrong Number Check with Metrics ----- //
2
3 import java.io.File;
4 import java.io.IOException;
5 import java.lang.management.ManagementFactory;
6 import com.sun.management.OperatingSystemMXBean;
7 import java.util.Scanner;
8
9 public class ArmstrongNumberMetrics {
10
11     // ----- Function to Check Armstrong Number ----- //
12     public static boolean isArmstrong(int num) {
13         int original = num;
14         int digits = 0, temp = num;
15
16         // Count digits
17         while (temp > 0) {
18             digits++;
19             temp /= 10;
20         }
21
22         // Sum of powers of digits
23         int sum = 0;
24         temp = num;
25         while (temp > 0) {
26             int digit = temp % 10;
27             sum += Math.pow(digit, digits);
28             temp /= 10;
29         }
30
31         return sum == original;
32     }
33
34     public static void main(String[] args) throws IOException, InterruptedException {
35
36         // ----- Compilation Time Measurement ----- //
37         long compileStart = System.nanoTime();
38         ProcessBuilder pb = new ProcessBuilder("javac", "ArmstrongNumberMetrics.java");
39         Process process = pb.start();
40         process.waitFor();
41         long compileEnd = System.nanoTime();
42     }
43 }
```

Input/Output API

Build beautiful web apps with JDoodle.ai

Language version: JDK 21.0.0 Interactive Mode

Input arguments

Output Generated files

Enter a number: 234
234 is not an Armstrong number.

===== METRICS =====
Compilation Time: 1193.417 ms
Execution Time: 4783.259 ms
Memory Used: 2014368 bytes
Code Size (.class file): 2992 bytes
CPU Usage: 0.00%

Compiled and executed in 7.848 sec(s)

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ExecuteNim

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```
// ----- Memory Before Execution ----- //
Runtime runtime = Runtime.getRuntime();
runtime.gc();
long usedMemoryBefore = runtime.totalMemory() - runtime.freeMemory();

// ----- Execution Time Measurement ----- //
long startTime = System.nanoTime();

// ----- Input ----- //
Scanner sc = new Scanner(System.in);
System.out.print("Enter a number: ");
int num = sc.nextInt();

// ----- Armstrong Check ----- //
if (isArmstrong(num)) {
    System.out.println(num + " is an Armstrong number.");
} else {
    System.out.println(num + " is not an Armstrong number.");
}

long endTime = System.nanoTime();

// ----- Memory After Execution ----- //
long usedMemoryAfter = runtime.totalMemory() - runtime.freeMemory();

// ----- CPU Usage ----- //
OperatingSystemMXBean osBean =
    (OperatingSystemMXBean) ManagementFactory.getOperatingSystemMXBean();
double cpuLoad = osBean.getProcessCpuLoad() * 100;

// ----- File Size ----- //
File file = new File("ArmstrongNumberMetrics.class");

// ----- Display Metrics ----- //
System.out.println("\n===== METRICS =====");
System.out.printf("Compilation Time: %.3f ms\n", (compileEnd - compileStart) / 1_000_000.0);
System.out.printf("Execution Time: %.3f ms\n", (endTime - startTime) / 1_000_000.0);
System.out.println("Memory Used: " + (usedMemoryAfter - usedMemoryBefore) + " bytes");
if (file.exists()) {
    System.out.println("Code Size (.class file): " + file.length() + " bytes");
}
```

Input/Output

API

Build beautiful web apps with JDoodle.ai

Language version: JDK 21.0.0

Interactive Mode

Input arguments

Output

Generated files

Enter a number: 234
234 is not an Armstrong number.

===== METRICS =====
Compilation Time: 1193.417 ms
Execution Time: 4783.259 ms
Memory Used: 2014368 bytes
Code Size (.class file): 2992 bytes
CPU Usage: 0.00%

Compiled and executed in 7.848 sec(s)

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Online Java Compiler IDE

ExecuteC++ 14Login

```
1 import java.lang.management.ManagementFactory;
2 import com.sun.management.OperatingSystemMXBean;
3 import java.util.Scanner;
4
5 public class Main {
6     public static void main(String[] args) {
7         // Simulated "compilation time"
8         long compileStart = System.nanoTime();
9         for (int i = 0; i < 1000000; i++); // Simulate delay
10        long compileEnd = System.nanoTime();
11
12        // Memory before execution
13        Runtime runtime = Runtime.getRuntime();
14        runtime.gc();
15        long usedMemoryBefore = runtime.totalMemory() - runtime.freeMemory();
16
17        // Execution time
18        long startTime = System.nanoTime();
19        Scanner sc = new Scanner(System.in);
20        System.out.print("Enter a year: ");
21        int year = sc.nextInt();
22
23        // Leap year check directly
24        if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
25            System.out.println(year + " is a leap year.");
26        } else {
27            System.out.println(year + " is not a leap year.");
28        }
29
30        long endTime = System.nanoTime();
31
32        // Memory after execution
33        long usedMemoryAfter = runtime.totalMemory() - runtime.freeMemory();
34
35        // CPU Usage
36        OperatingSystemMXBean osBean =
37            (OperatingSystemMXBean) ManagementFactory.getOperatingSystemMXBean();
38        double cpuLoad = osBean.getProcessCpuLoad() * 100;
39
40        // Output metrics
41        System.out.println("\n===== METRICS =====");
```

Build beautiful web apps with JDoodle.ai

Language version: JDK 21.0.0 ☒ Interactive Mode

Input arguments

OutputGenerated files

Enter a year: 2004
2004 is a leap year.

===== METRICS =====
Compilation Time (simulated): 3.779 ms
Execution Time: 3122.723 ms
Memory Used: 1512912 bytes
CPU Usage: 0.00%

Compiled and executed in 4.753 sec(s)

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Clojure

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```
3 import java.util.Scanner;
4
5 public class Main {
6     public static void main(String[] args) {
7         // Simulated "compilation time"
8         long compileStart = System.nanoTime();
9         for (int i = 0; i < 1000000; i++); // Simulate delay
10        long compileEnd = System.nanoTime();
11
12        // Memory before execution
13        Runtime runtime = Runtime.getRuntime();
14        runtime.gc();
15        long usedMemoryBefore = runtime.totalMemory() - runtime.freeMemory();
16
17        // Execution time
18        long startTime = System.nanoTime();
19        Scanner sc = new Scanner(System.in);
20        System.out.print("Enter a year: ");
21        int year = sc.nextInt();
22
23        // Leap year check directly
24        if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
25            System.out.println(year + " is a leap year.");
26        } else {
27            System.out.println(year + " is not a leap year.");
28        }
29
30        long endTime = System.nanoTime();
31
32        // Memory after execution
33        long usedMemoryAfter = runtime.totalMemory() - runtime.freeMemory();
34
35        // CPU Usage
36        OperatingSystemMXBean osBean =
37            (OperatingSystemMXBean) ManagementFactory.getOperatingSystemMXBean();
38        double cpuLoad = osBean.getProcessCpuLoad() * 100;
39
40        // Output metrics
41        System.out.println("\n===== METRICS =====");
42        System.out.printf("Compilation Time (simulated): %.3f ms\n", (compileEnd - compileStart) / 1_000_000.0);
43        System.out.printf("Execution Time: %.3f ms\n", (endTime - startTime) / 1_000_000.0);
44        System.out.printf("Memory Used: %.3f MB\n", (usedMemoryAfter - usedMemoryBefore) / 1_000_000.0);
45        System.out.printf("CPU Usage: %.2f%%\n", cpuLoad);
46    }
47 }
```

Input/Output

Build beautiful web apps with JDoodle.ai

Language version: JDK 21.0.0 ☒ Interactive Mode

Input arguments

Output Generated files

Enter a year: 2004
2004 is a leap year.

===== METRICS =====
Compilation Time (simulated): 3.779 ms
Execution Time: 3122.723 ms
Memory Used: 1512912 bytes
CPU Usage: 0.60%

Compiled and executed in 4.753 sec(s)

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Got it!