

Module 1: Introduction to Java Fundamentals

Premanand S

Assistant Professor
School of Electronics Engineering
Vellore Institute of Technology
Chennai Campus

premanand.s@vit.ac.in

February 9, 2026

Module 1: Revision

① Which class is immutable?

- A) String
- B) StringBuilder
- C) StringBuffer
- D) Character

Module 1: Revision

① Which class is immutable?

- A) String
- B) StringBuilder
- C) StringBuffer
- D) Character

② What is the range of Math.random()?

- A) 0 to 1
- B) $0.0 \leq value \leq 1.0$
- C) $0.0 \leq value < 1.0$
- D) 1 to 10

Module 1: Revision

- ① Predict the output:

```
String s = "Java";  
s.concat(" Programming");  
System.out.println(s);
```

Module 1: Revision

① Predict the output:

```
String s = "Java";  
s.concat(" Programming");  
System.out.println(s);
```

② Which is fastest for repeated string modification?

- A) String
- B) StringBuffer
- C) StringBuilder
- D) All are same

Module 1: Revision

- ① What will be the output?

```
int x = 5;  
System.out.println(x++ + ++x);
```

Module 1: Revision

① What will be the output?

```
int x = 5;  
System.out.println(x++ + ++x);
```

② Which statement is TRUE?

- A) StringBuilder is thread-safe
- B) StringBuffer is immutable
- C) String is immutable
- D) String is faster than StringBuilder

Module 1: Revision

- ① Predict the output:

```
StringBuilder sb = new StringBuilder("Hi");
sb.append(" All");
System.out.println(sb);
```

Module 1: Revision

- ① Predict the output:

```
StringBuilder sb = new StringBuilder("Hi");
sb.append(" All");
System.out.println(sb);
```

- ② Write a program to generate a random number from 1 to 6 (dice).

Module 1: Revision

- ① Fix the bug:

```
String s = "Hi";  
s.concat(" All");  
System.out.println(s);
```

Module 1: Revision

- ① Fix the bug:

```
String s = "Hi";  
s.concat(" All");  
System.out.println(s);
```

- ② Write a program to compare two strings correctly.

Module 1: Revision

- ① Predict the output and explain:

```
StringBuilder sb1 = new StringBuilder("Hello");
StringBuilder sb2 = sb1;
sb2.append(" World");
System.out.println(sb1);
```

Module 1: Revision

- ① Predict the output and explain:

```
StringBuilder sb1 = new StringBuilder("Hello");
StringBuilder sb2 = sb1;
sb2.append(" World");
System.out.println(sb1);
```

- ② Generate a 4-digit OTP using Math.random() and display it using StringBuilder.

Module 1: Revision

- ① Predict the output:

```
String s1 = "Hello";
String s2 = "Hello";
System.out.println(s1 == s2);
```

Module 1: Revision

- ① Predict the output:

```
String s1 = "Hello";
String s2 = "Hello";
System.out.println(s1 == s2);
```

- ② Write a program to check whether a number is even or odd using ternary operator.

Module 1: Revision

- ① Predict the output:

```
String s1 = new String("Java");
String s2 = new String("Java");
System.out.println(s1 == s2);
System.out.println(s1.equals(s2));
```

Module 1: Revision

- ① Predict the output:

```
String s1 = new String("Java");
String s2 = new String("Java");
System.out.println(s1 == s2);
System.out.println(s1.equals(s2));
```

- ② Write a program to generate a random OTP of length 4 using `Math.random()`.

Module 1: Revision

- ① Predict the output:

```
StringBuilder sb = new StringBuilder("A");
sb.append("B").append("C");
System.out.println(sb);
```

Module 1: Revision

- ① Predict the output:

```
StringBuilder sb = new StringBuilder("A");
sb.append("B").append("C");
System.out.println(sb);
```

- ② Predict the output:

```
int x = 10;
System.out.println(x++ + ++x + x);
```

Module 1: Revision

- ① Predict the output:

```
String s = "Java";
s = s.concat(" World").toUpperCase();
System.out.println(s);
```

Module 1: Revision

- ① Predict the output:

```
String s = "Java";
s = s.concat(" World").toUpperCase();
System.out.println(s);
```

- ② Predict the output:

```
StringBuilder sb1 = new StringBuilder("Hi");
StringBuilder sb2 = sb1;
sb1 = new StringBuilder("Hello");
sb2.append(" All");
System.out.println(sb1);
System.out.println(sb2);
```

Thank You!

Stay Connected

Premanand S

Email: premanand.s@vit.ac.in

Phone: +91-7358679961

LinkedIn: [linkedin.com/in/premsanand](https://www.linkedin.com/in/premsanand)

Instagram: [instagram.com/premsanand](https://www.instagram.com/premsanand)

WhatsApp Channel: anandsDataX

Google Scholar: Google Scholar Profile

GitHub: github.com/anandprems