

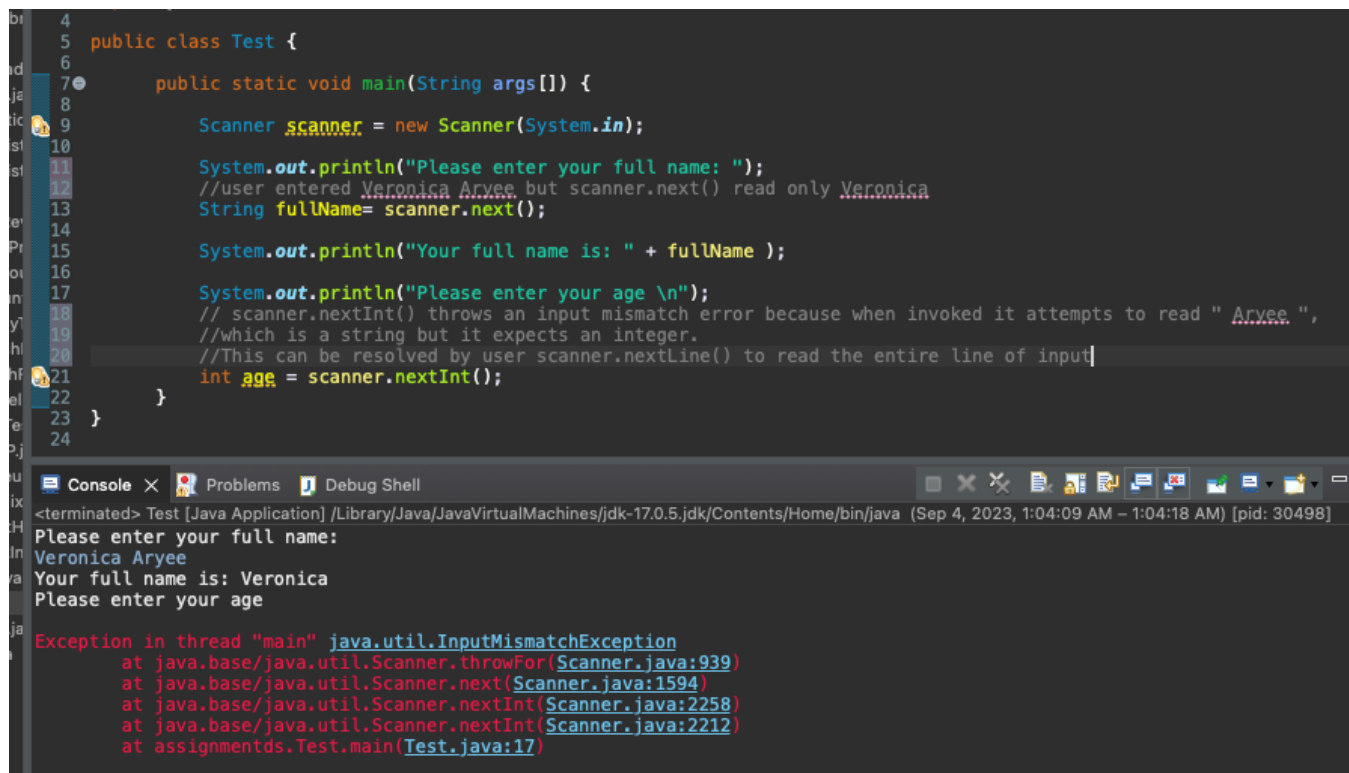
THE DIFFERENCE BETWEEN `next()` AND `nextline()` METHODS IN JAVA

Methods `next()` and `nextline()` of class `Scanner` are used to read user's input. Method `next()` however just reads the user's first word up to the first space found.

For example, if the user enters an input, "Hello world" and method `next()` is used to read the input. The only input the scanner object reads will be "Hello". Anything after that is ignored.

Method `nextline()` of class `Scanner` are used to read the entire line of a user's input. It can read lines including whitespaces and only stops after the enter key is pressed. In the earlier example, the user's entire input "Hello world" can be read with method `nextline()`.

An exception error can happen if method `nextInt()` is used right after method `next()` was used to read a user's input which includes whitespace. This is because method `next()` can only read a word until a whitespace is found. Once a whitespace is found, it stops reading. This means that the whitespace is still in the input stream. Now method `nextInt()`, which expects an integer input, will receive a string value, hence throws an input mismatch exception. An example is shown below:



```
4 public class Test {
5
6
7     public static void main(String args[]) {
8
9         Scanner scanner = new Scanner(System.in);
10
11         System.out.println("Please enter your full name: ");
12         //user entered Veronica Aryee, but scanner.next() read only Veronica
13         String fullName= scanner.next();
14
15         System.out.println("Your full name is: " + fullName );
16
17         System.out.println("Please enter your age \n");
18         // scanner.nextInt() throws an input mismatch error because when invoked it attempts to read " Aryee ",
19         //which is a string but it expects an integer.
20         //This can be resolved by user scanner.nextLine() to read the entire line of input
21         int age = scanner.nextInt();
22     }
23 }
24
```

Console Output:

```
<terminated> Test [Java Application] /Library/Java/JavaVirtualMachines/jdk-17.0.5.jdk/Contents/Home/bin/java (Sep 4, 2023, 1:04:09 AM – 1:04:18 AM) [pid: 30498]
Please enter your full name:
Veronica Aryee
Your full name is: Veronica
Please enter your age

Exception in thread "main" java.util.InputMismatchException
    at java.base/java.util.Scanner.throwFor(Scanner.java:939)
    at java.base/java.util.Scanner.next(Scanner.java:1594)
    at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
    at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
    at assignmentds.Test.main(Test.java:17)
```