Writing a program in Java to demonstrate the **throw** keyword
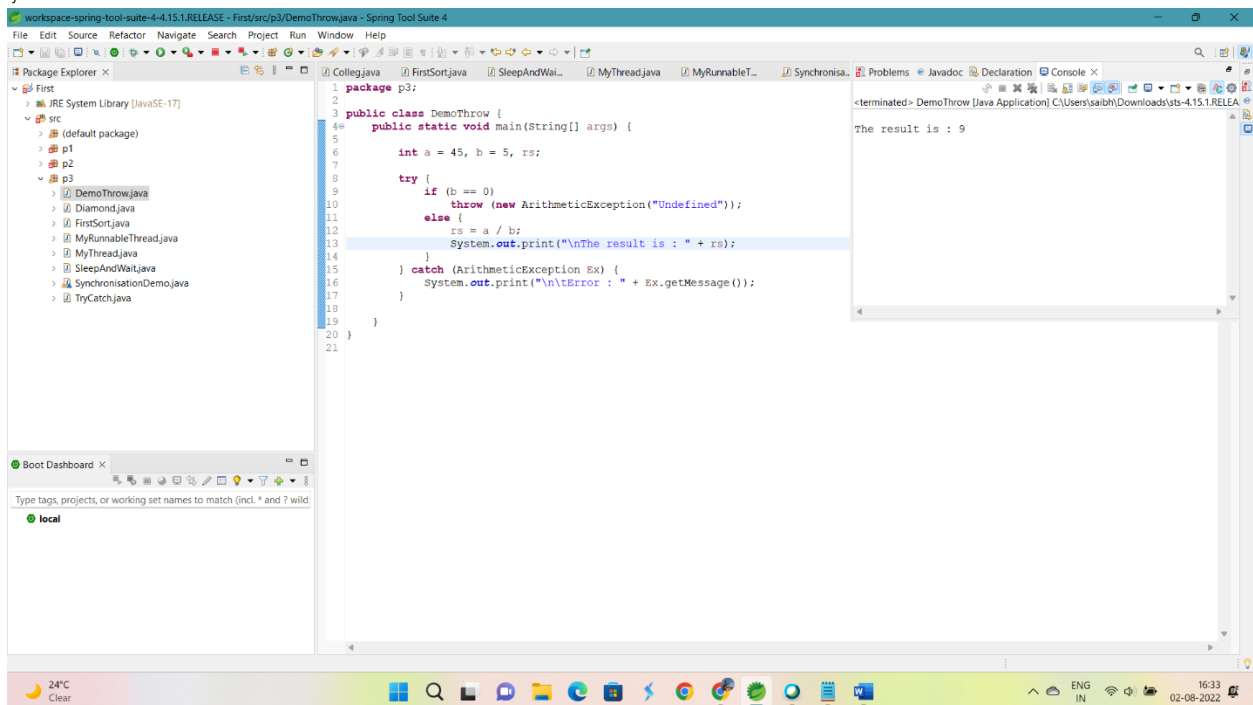
```java
package p3;

public class DemoThrow {
    public static void main(String[] args) {

        int a = 45, b = 5, rs;

        try {
            if (b == 0)
                throw (new ArithmeticException("Undefined"));
            else {
                rs = a / b;
                System.out.print("\nThe result is : " + rs);
            }
        } catch (ArithmeticException Ex) {
            System.out.print("\n\tError : " + Ex.getMessage());
        }

    }
}
```


Writing a program in Java to demonstrate the **throws** keyword
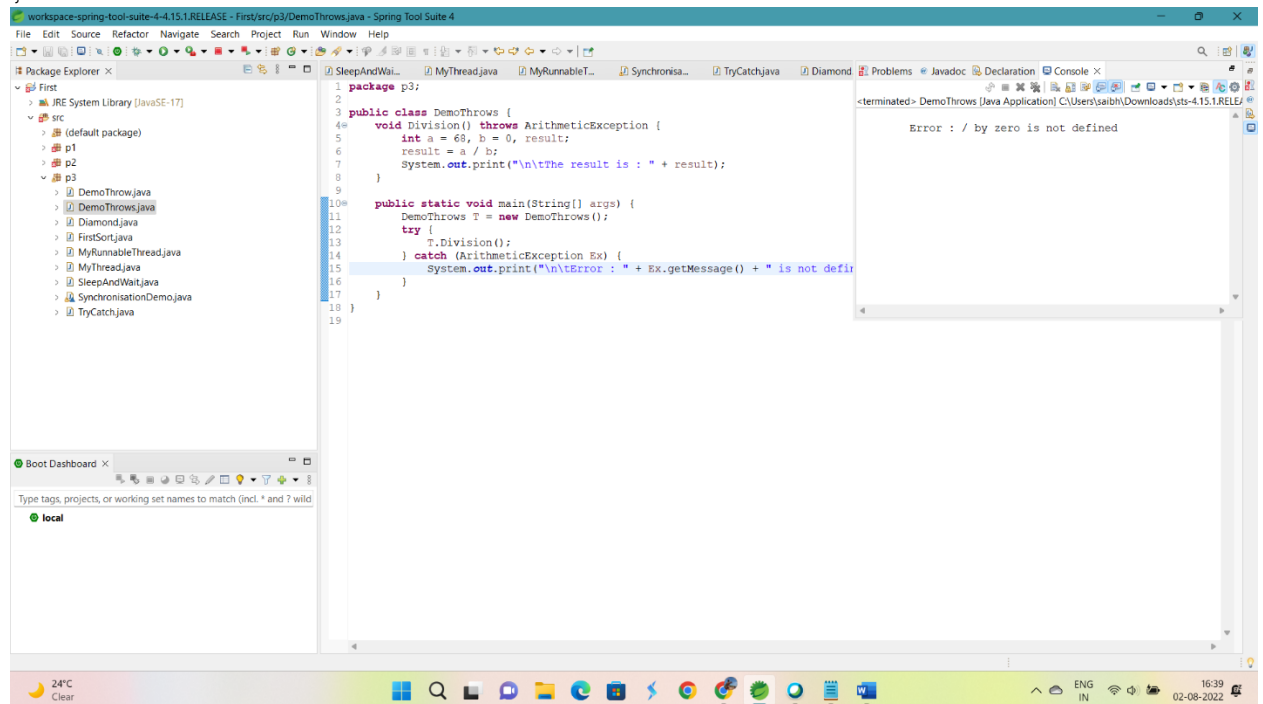Select your project and go to File -> New -> Class.

```java
package p3;
```

```java
public class DemoThrows {
    void Division() throws ArithmeticException {
        int a = 68, b = 0, result;
        result = a / b;
        System.out.print("\n\tThe result is : " + result);
    }

    public static void main(String[] args) {
        DemoThrows T = new DemoThrows();
        try {
            T.Division();
        } catch (ArithmeticException Ex) {
            System.out.print("\n\tError : " + Ex.getMessage() + " is not defined");
        }
    }
}
```


Writing a program in Java to demonstrate the **finally** keyword

```java
package p3;

public class DemoFinally {
    public static void main(String[] args) {
        int a = 23, b = 0, result = 0;
        try {
            result = a / b;
        } catch (ArithmeticException Ex) {
            System.out.print("\nError : " + Ex.getMessage());
```
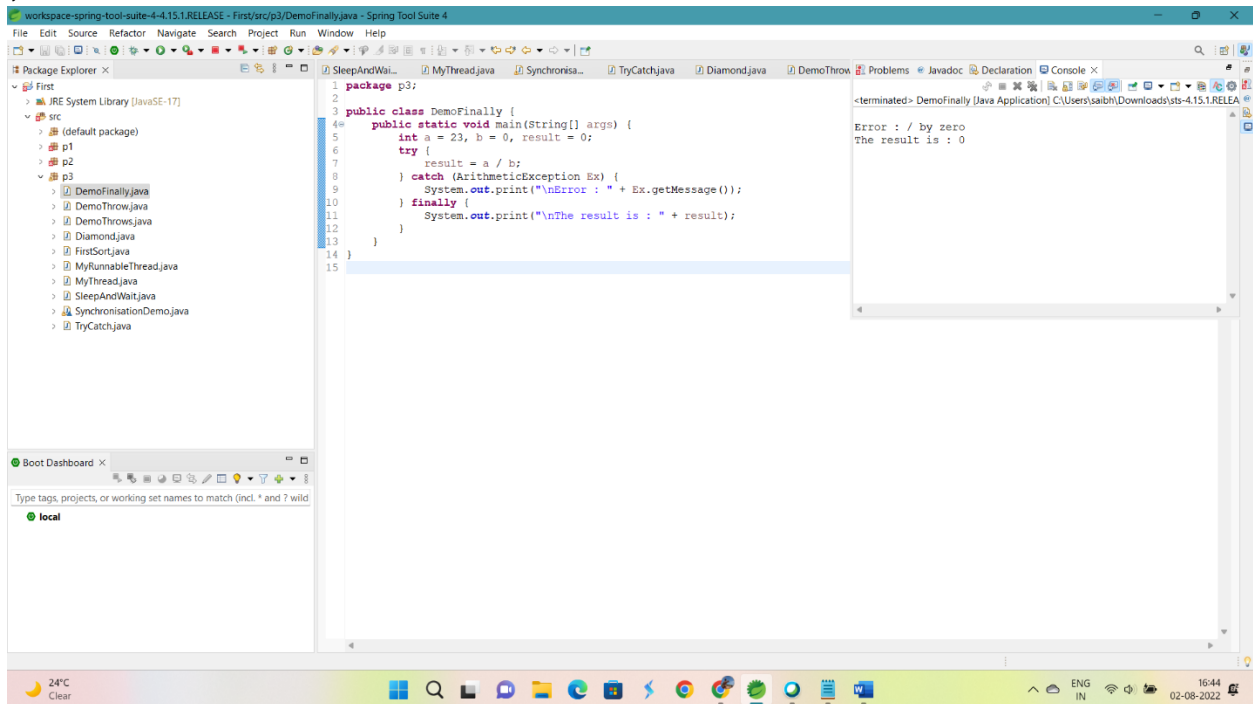
```
        } finally {
            System.out.print("\nThe result is : " + result);
        }
    }
}
```


Writing a program in Java to demonstrate custom exceptions

```java
package p3;

class DemoCust extends Exception {
    public DemoCust(String s) {
        super(s);
    }

    public static void main(String args[]) {
        try {
            throw new DemoCust("temp");
        } catch (DemoCust ex) {
            System.out.println("Caught");
            System.out.println(ex.getMessage());
        }
    }
}
```

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```java
package p3;

class DemoCust extends Exception {
    public DemoCust(String s) {
        super(s);
    }

    public static void main(String args[]) {
        try {
            throw new DemoCust("temp");
        } catch (DemoCust ex) {
            System.out.println("Caught");
            System.out.println(ex.getMessage());
        }
    }
}
```

Console

```
<terminated> DemoCust [Java Application] C:\Users\saibh\Downloads\sts-4.15.1.RELEASE
Caught
temp
```

Package Explorer
- First
  - JRE System Library [JavaSE-17]
  - src
    - (default package)
    - p1
    - p2
    - p3
      - DemoCust.java
      - DemoFinally.java
      - DemoThrow.java
      - DemoThrows.java
      - Diamond.java
      - FirstSort.java
      - MyRunnableThread.java
      - MyThread.java
      - SleepAndWait.java
      - SynchronisationDemo.java
      - TryCatch.java

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- local