1. package javatask;

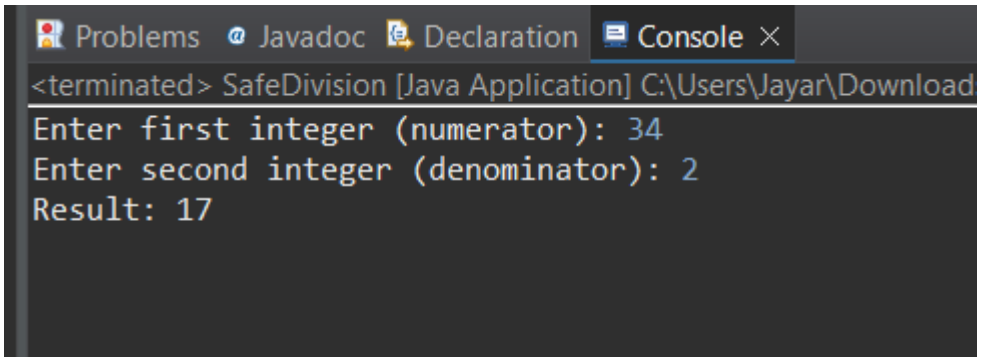
import java.util.Scanner;

public class SafeDivision {

```
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter first integer (numerator): ");
        int a = sc.nextInt();
        System.out.print("Enter second integer (denominator): ");
        int b = sc.nextInt();

        try {
            int result = a / b;
            System.out.println("Result: " + result);
        } catch (ArithmeticException e) {
            System.out.println("Error: Cannot divide by zero.");
        } finally {
            sc.close();
        }
    }
}
```

RESULT:

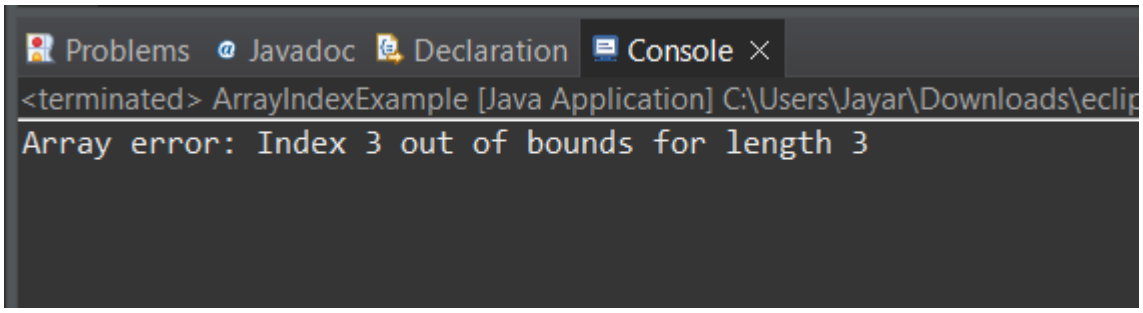


2. ArrayIndexOutOfBoundsException

```
package javatask;
public class ArrayIndexExample {

        public static void main(String[] args) {
            int[] nums = {10, 20, 30};
            try {
                System.out.println(nums[3]);
            } catch (ArrayIndexOutOfBoundsException e) {
                System.out.println("Array error: " + e.getMessage());
            }
        }
    }
```

RESULT:

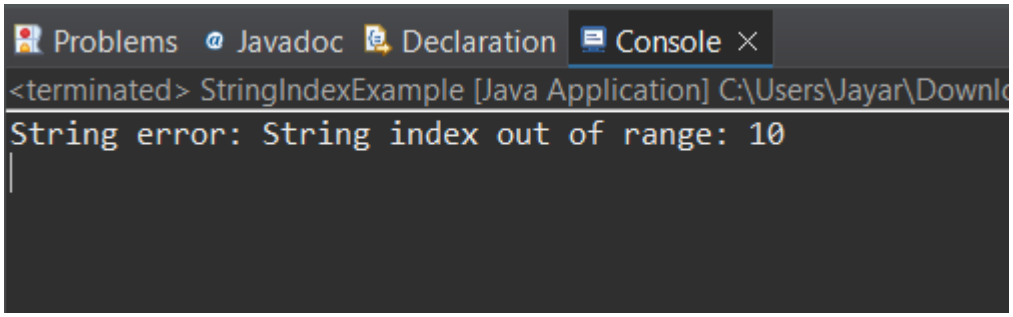


StringIndexOutOfBoundsException

```
package javatask;
public class StringIndexExample {
        public static void main(String[] args) {
            String word = "JAVA";
            try {
                char ch = word.charAt(10);
                System.out.println(ch);
            }
 catch (StringIndexOutOfBoundsException e)
```

```
{
                System.out.println("String error: " + e.getMessage());
            }
        }
    }
```

RESULT:



3.

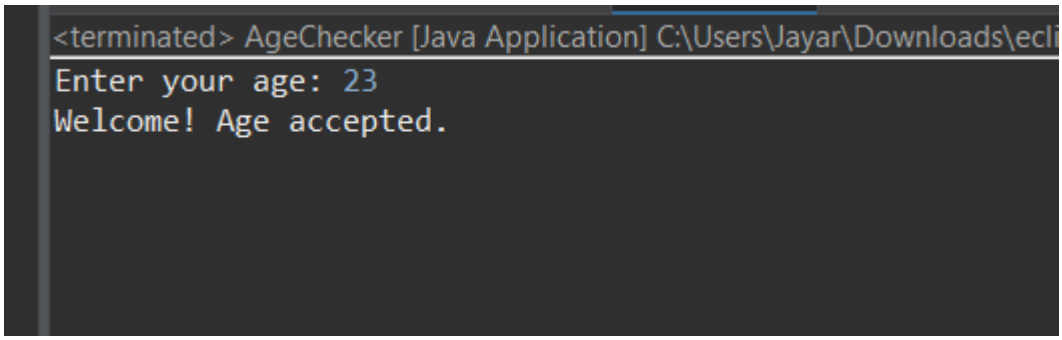
```
package javatask;
public class InvalidAgeException extends Exception {
   public InvalidAgeException(String message) {
      super(message);
   }
}
package javatask;
import java.util.Scanner;
public class AgeChecker {
        static void checkAge(int age) throws InvalidAgeException {
            if (age < 18) {
                throw new InvalidAgeException("Age " + age + " is not allowed (must be 18 or above).");
            }
        }

        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
```

```
            System.out.print("Enter your age: ");
            int age = sc.nextInt();

            try {
                checkAge(age);
                System.out.println("Welcome! Age accepted.");
            } catch (InvalidAgeException e) {
                System.out.println("Error: " + e.getMessage());
            } finally {
                sc.close();
            }
        }
    }
```

RESULT:



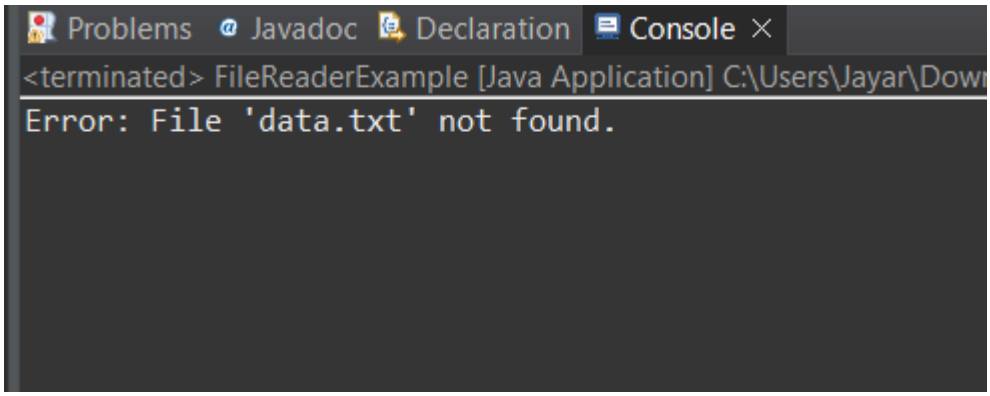
4. package javatask;

```
import java.io.File;
import java.io.FileNotFoundException;
import java.util.Scanner;

public class FileReaderExample {
    public static void main(String[] args) {
        File file = new File("data.txt");
        try (Scanner sc = new Scanner(file)) { // try-with-resources auto-closes Scanner
```

```
            System.out.println("File contents:");
            while (sc.hasNextLine()) {
                System.out.println(sc.nextLine());
            }
        } catch (FileNotFoundException e) {
            System.out.println("Error: File 'data.txt' not found.");
        }
    }
}
```

RESULT:

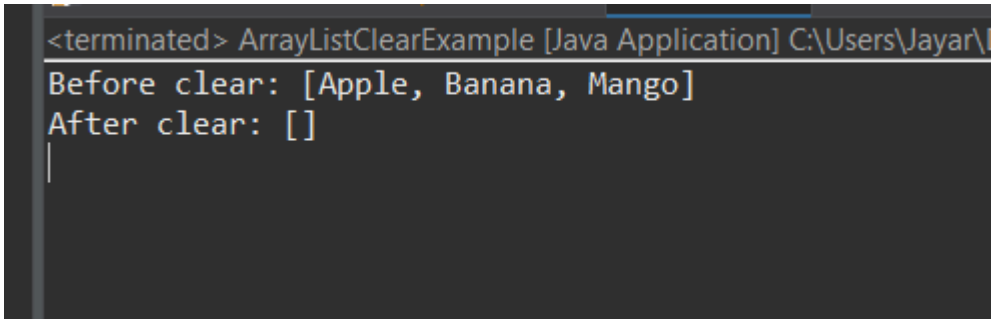


5.

```
package javatask;
import java.util.ArrayList;
public class ArrayListClearExample {
    public static void main(String[] args) {
        ArrayList<String> fruits = new ArrayList<>();
        fruits.add("Apple");
        fruits.add("Banana");
        fruits.add("Mango");

        System.out.println("Before clear: " + fruits);
        fruits.clear();
        System.out.println("After clear: " + fruits);
    }
}
```

RESULT:



6. package javatask;

import java.util.Map;

import java.util.TreeMap;

public class EmployeeNamesSorted {

public static void main(String[] args) {

TreeMap<String, Integer> employees = new TreeMap<>();

employees.put("Ravi", 102);

employees.put("Anita", 101);

employees.put("Vivek", 105);

employees.put("Kiran", 103);

System.*out*.println("Employee names in alphabetical order:");

for (String name : employees.keySet()) {

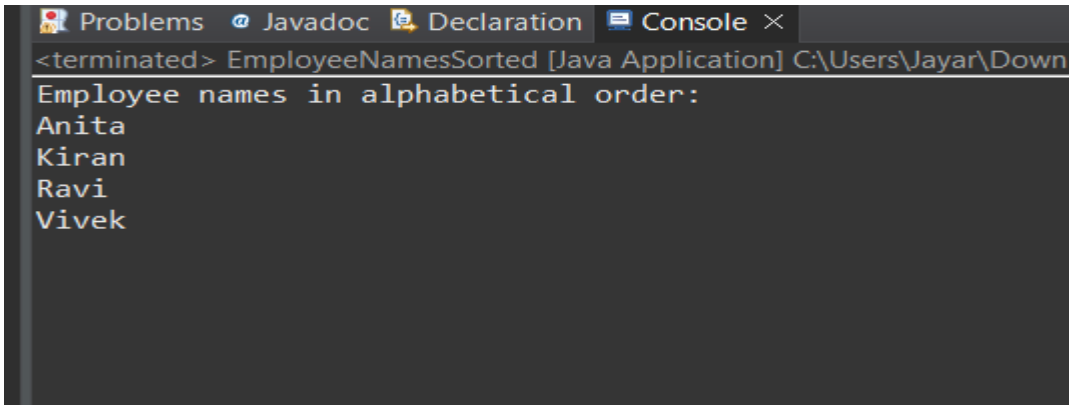
System.*out*.println(name);

}

}

}

RESULT:



7. import java.util.*;

```
public class ListToArrayExample {
    public static void main(String[] args) {
        List<String> colors = new ArrayList<>();
        colors.add("Red");
        colors.add("Green");
        colors.add("Blue");
        String[] colorArray = colors.toArray(new String[0]);
        System.out.println("Array elements:");
        for (String c : colorArray) {
            System.out.println(c);
        }
    }
}
```

RESULT: