

## UNIT TESTING SPECIFICATION

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## Document Control

Date	Author	Version	Change Reference
13-NOV-2020	Daryll Moya	0.1	Initial Version

## Introduction

### Purpose

The purpose of the Testing Specification Document is to provide a consolidated/indexed view of various information related to testing efforts for the coding exam. This includes the following:

- Defining plans for unit testing
- Summary of test results

### Scope

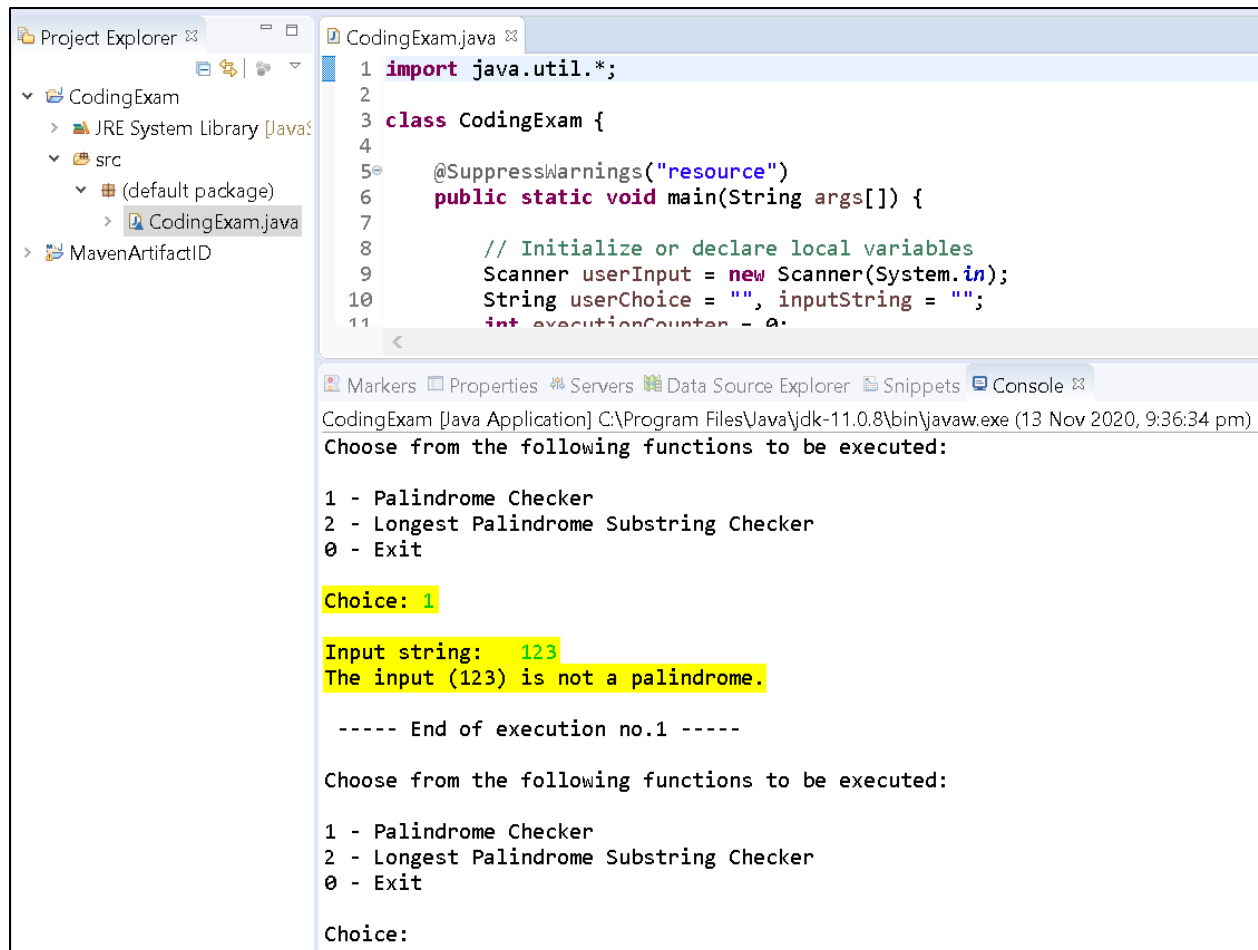
- **In-scope** – Unit testing for the following scenarios related to the following:
  - Palindrome Checker
  - Longest Palindrome Substring
- **Out-of-scope** - The following testing will not be considered for this document:
  - Other challenges/problems not specified in the instructions for this coding exam

## Test Method

Running the program in Eclipse IDE.

## Unit Test Results

Test Case # 1 – User inputs “1” as the function to be executed; The input only contains number and it is not a palindrome



The screenshot displays an IDE with two main panels. The top panel shows the source code for `CodingExam.java`, which includes an import statement for `java.util.*`, a class declaration `class CodingExam`, and a `main` method. The `main` method uses `@SuppressWarnings("resource")`, a `Scanner` to read user input, and a `String` variable `userChoice` to store the input. The bottom panel shows the console output of the program. The output starts with a prompt to choose a function to execute, followed by the user's choice of '1'. It then prompts for an input string, which is '123', and outputs the message 'The input (123) is not a palindrome.' followed by a separator line and a prompt to choose a function again.

```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:36:34 pm)  
Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 1

Input string: 123  
The input (123) is not a palindrome.

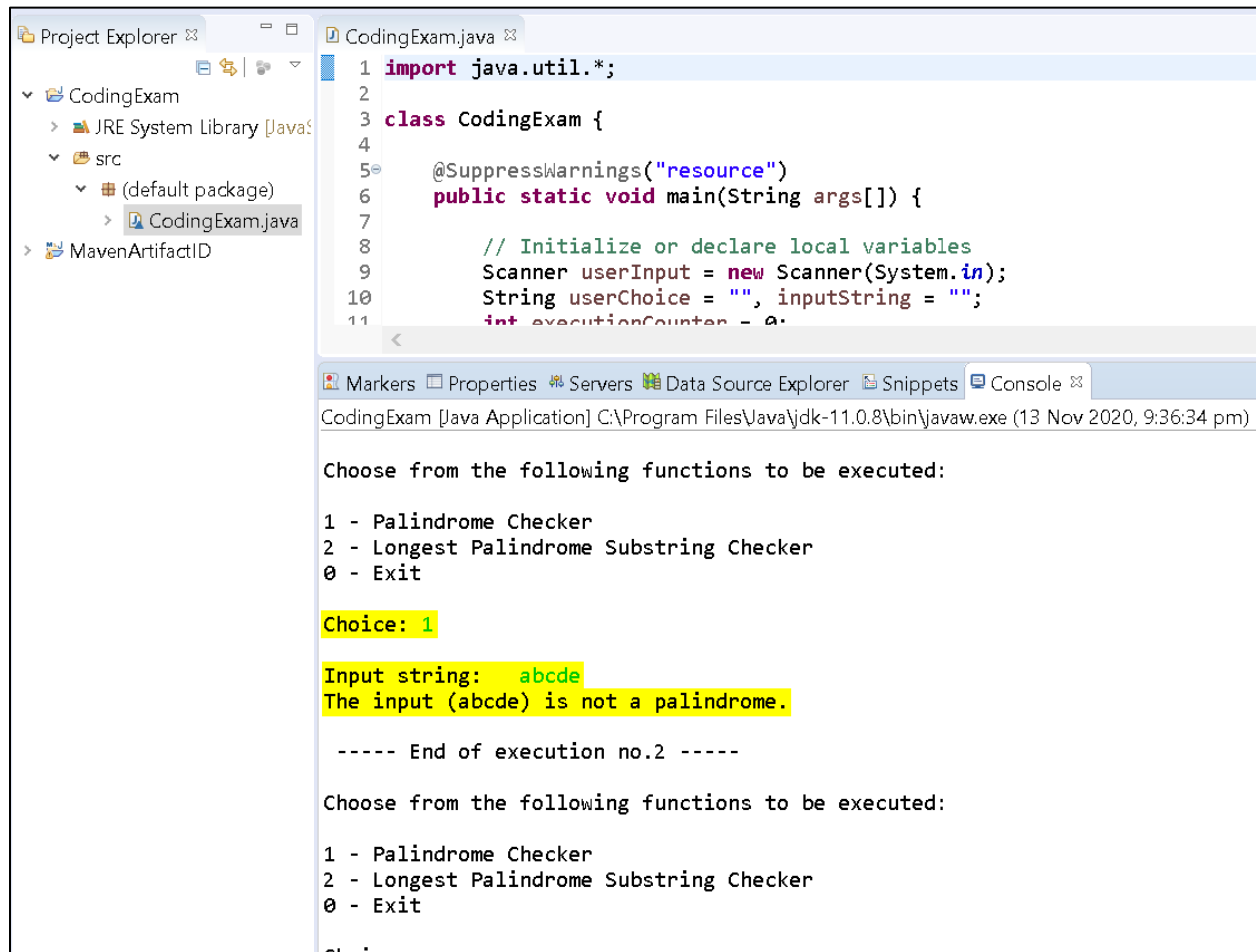
----- End of execution no.1 -----

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice:

Test Case # 2 – User inputs “1” as the function to be executed; The input only contains lower case letters and it is not a palindrome



The screenshot shows an IDE with a project named 'CodingExam'. The 'Project Explorer' on the left shows the project structure: 'CodingExam' (containing 'JRE System Library [JavaSE-11.0.8]' and 'src' (containing 'CodingExam.java' and 'MavenArtifactID')). The 'CodingExam.java' file is open in the editor, showing the following code:

```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

The 'Console' tab at the bottom shows the program's execution output:

```
CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:36:34 pm)

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice: 1

Input string: abcde
The input (abcde) is not a palindrome.

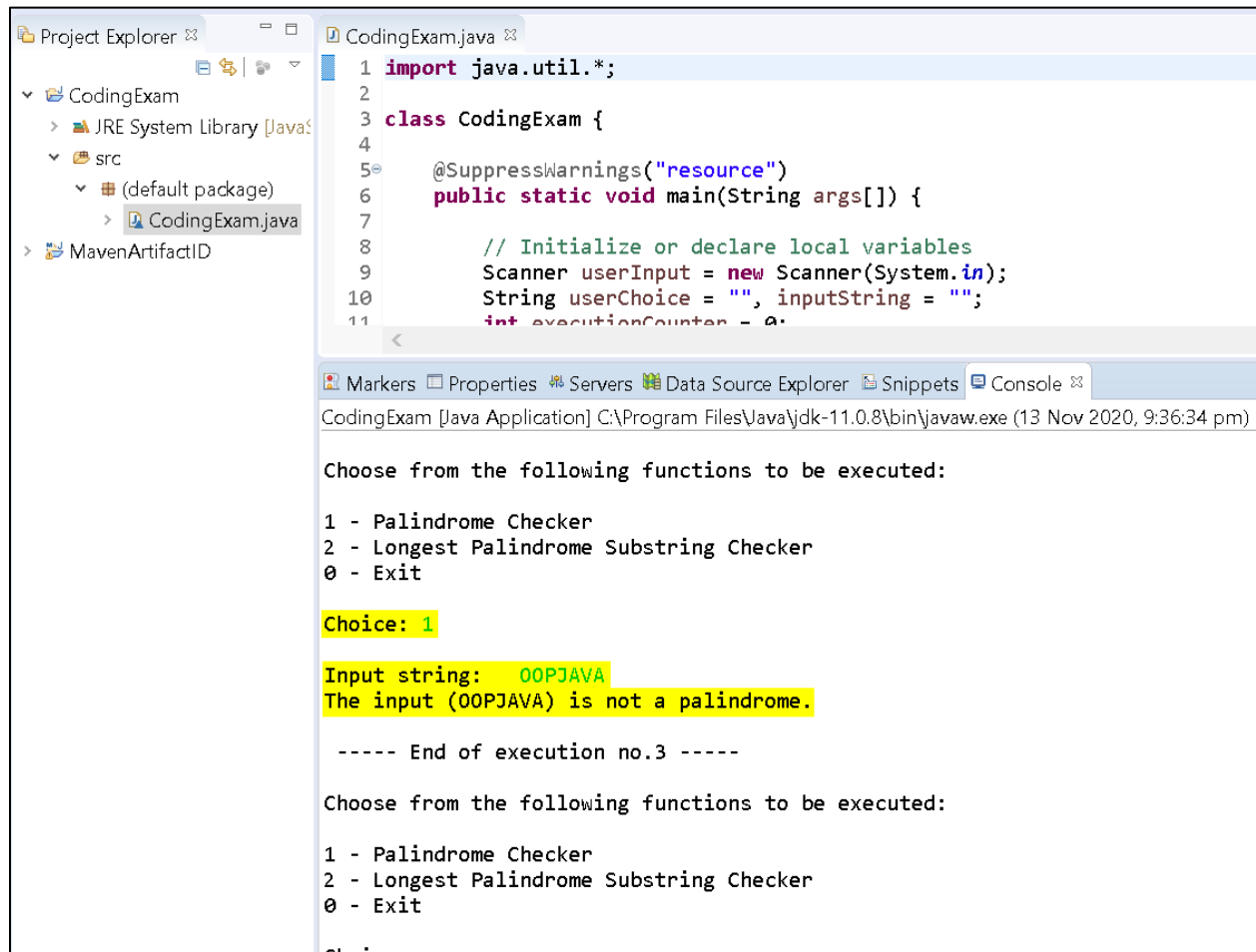
----- End of execution no.2 -----

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice:
```

Test Case # 3 – User inputs “1” as the function to be executed; The input only contains upper case letters and it is not a palindrome



```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:36:34 pm)

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 1

Input string: OOPJAVA

The input (OOPJAVA) is not a palindrome.

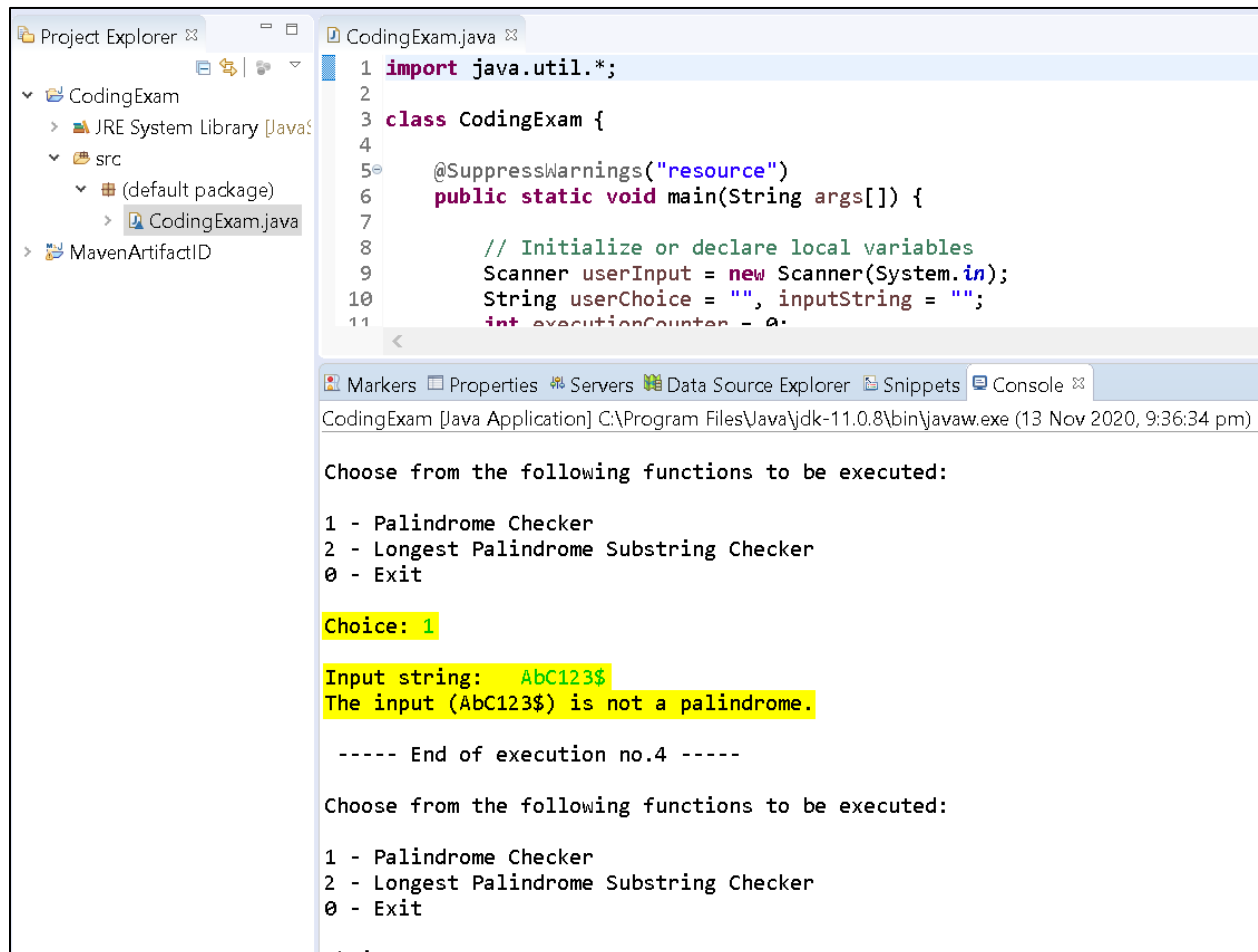
----- End of execution no.3 -----

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice:

Test Case # 4 – User inputs “1” as the function to be executed; The input contains a combination of alpha-numeric characters and special characters and it is not a palindrome



The screenshot displays an IDE with a project named 'CodingExam'. The 'Project Explorer' on the left shows the project structure, including 'JRE System Library [JavaSE-11]', 'src', and 'MavenArtifactID'. The 'CodingExam.java' file is open in the editor, showing the following code:

```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

The 'Console' tab at the bottom shows the program's execution output:

```
CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:36:34 pm)

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice: 1

Input string: AbC123$
The input (AbC123$) is not a palindrome.

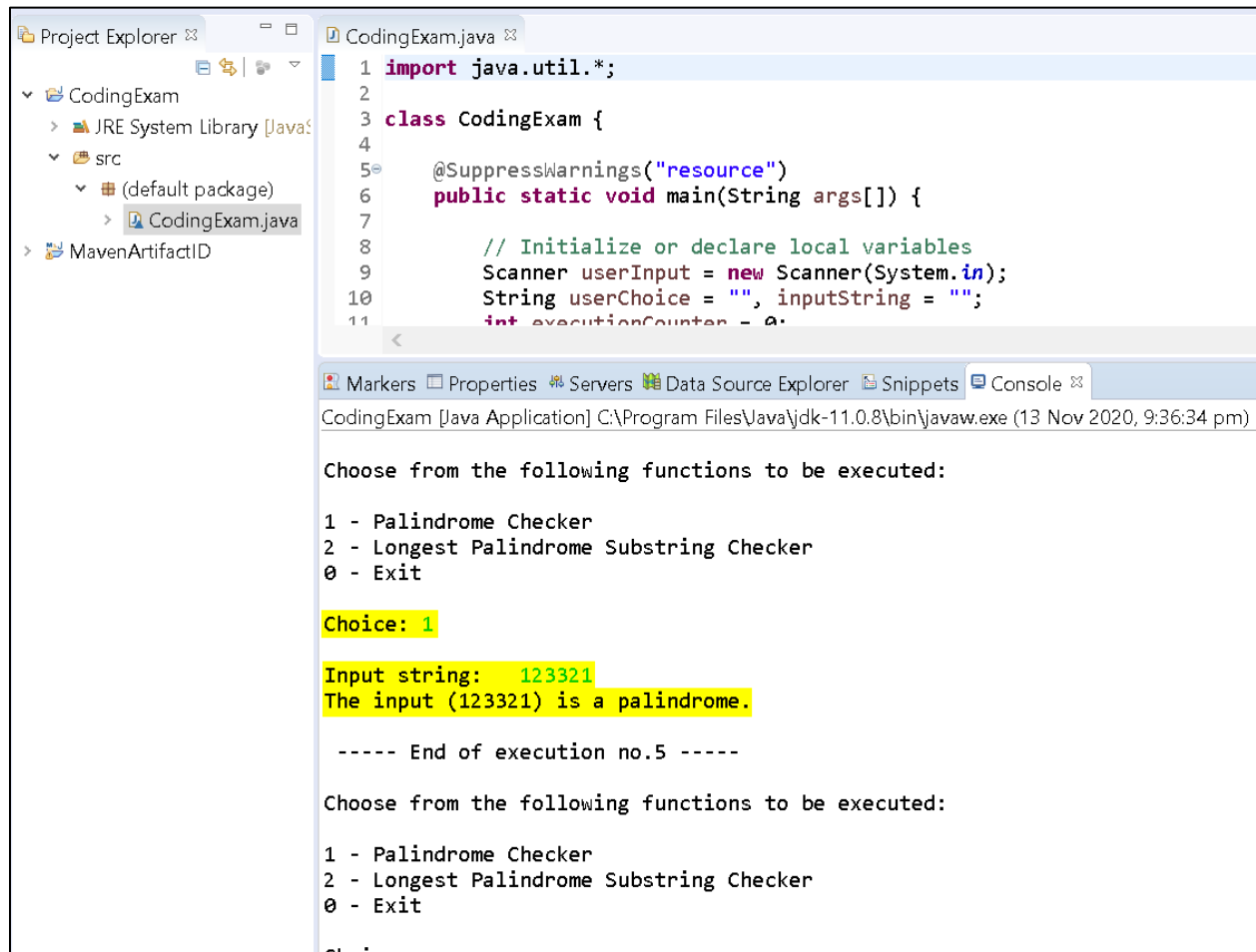
----- End of execution no.4 -----

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice:
```

Test Case # 5 – User inputs “1” as the function to be executed; The input only contains number and it is a palindrome



The screenshot displays an IDE with the 'CodingExam.java' file open. The Project Explorer on the left shows the project structure: 'CodingExam' containing 'JRE System Library [Java: ...]', 'src' (default package) with 'CodingExam.java', and 'MavenArtifactID'. The main editor shows the following Java code:

```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

The Console window at the bottom shows the program's execution:

```
CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:36:34 pm)

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice: 1

Input string: 123321
The input (123321) is a palindrome.

----- End of execution no.5 -----

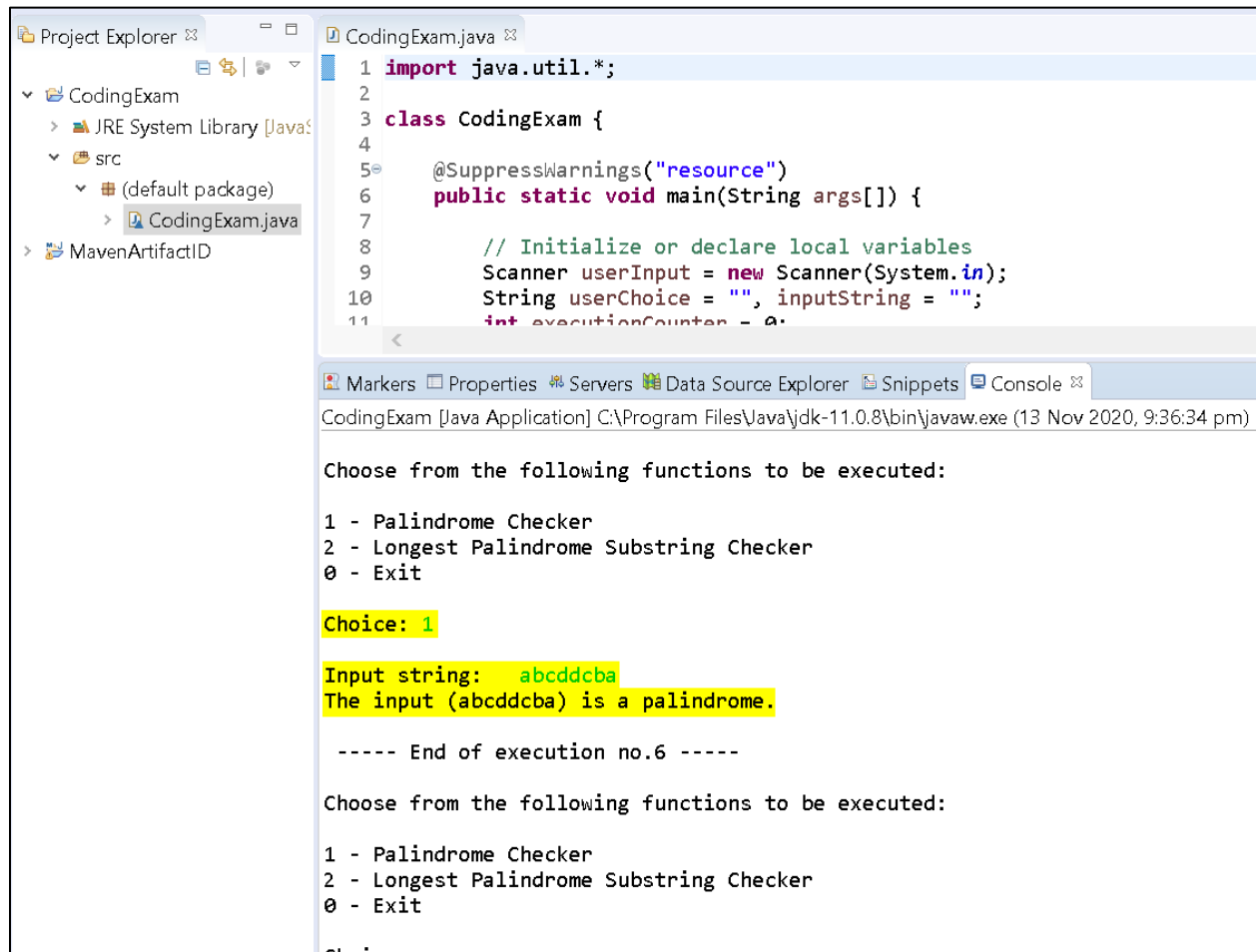
Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice:
```



Test Case # 6 – User inputs “1” as the function to be executed; The input only contains lower case letters and it is a palindrome



```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:36:34 pm)

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 1

Input string: abcdcdba  
The input (abcdcdba) is a palindrome.

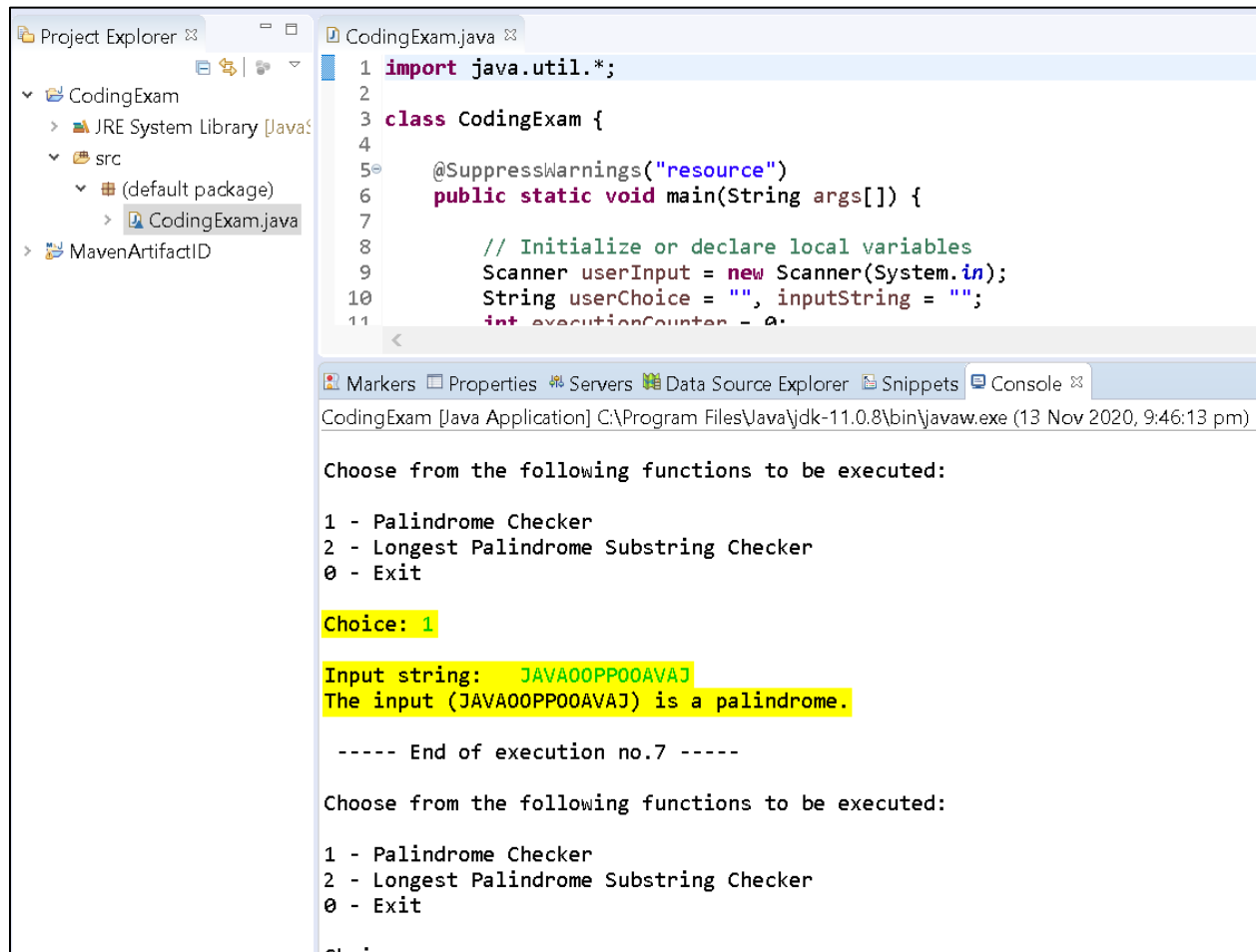
----- End of execution no.6 -----

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice:

Test Case # 7 – User inputs “1” as the function to be executed; The input only contains upper case letters and it is a palindrome



```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:46:13 pm)

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 1

Input string: JAVA00PP00AVAJ

The input (JAVA00PP00AVAJ) is a palindrome.

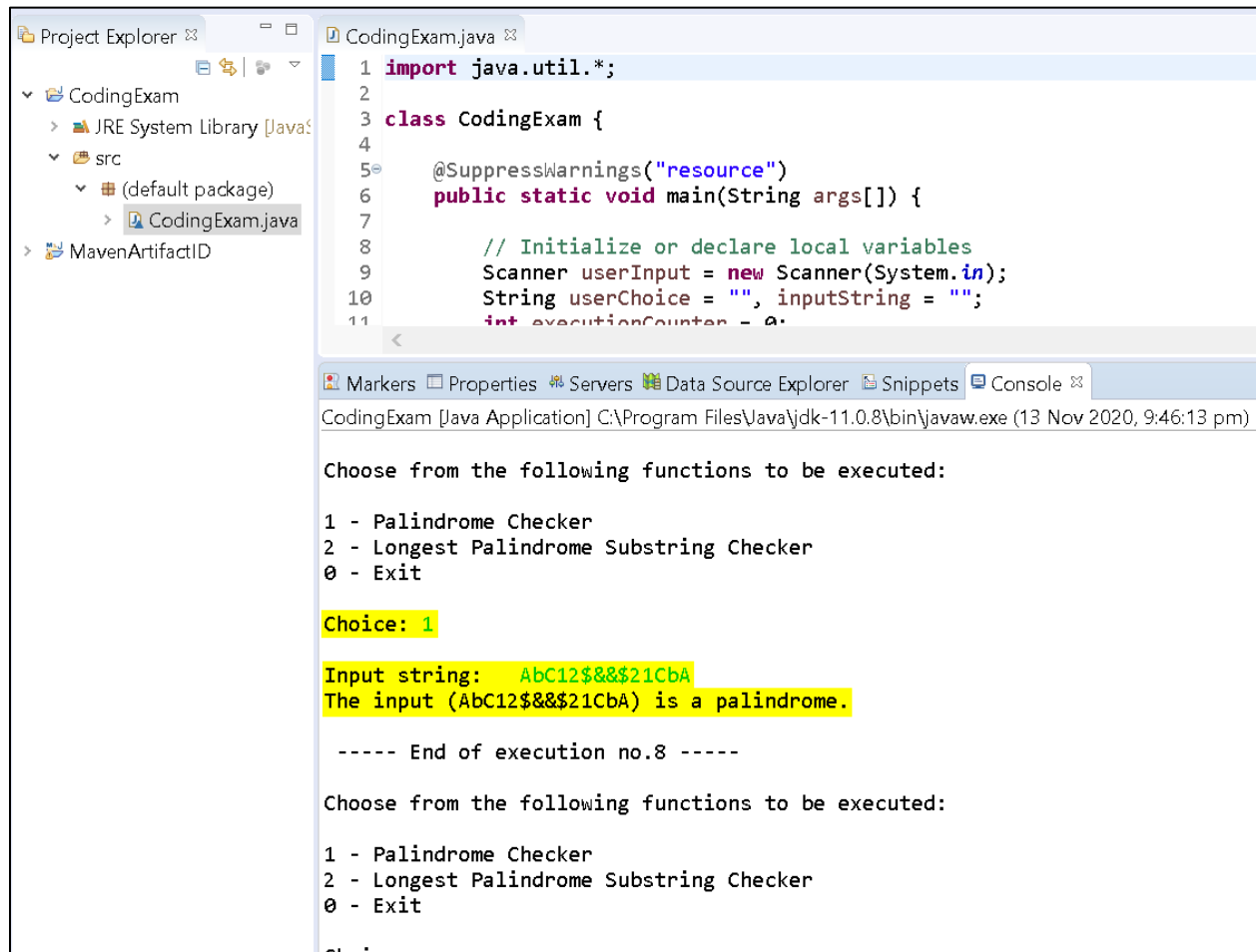
----- End of execution no.7 -----

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice:

Test Case # 8 – User inputs “1” as the function to be executed; The input contains a combination of alpha-numeric characters and special characters and it is a palindrome



```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:46:13 pm)

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 1

Input string: AbC12\$&&\$21CbA

The input (AbC12\$&&\$21CbA) is a palindrome.

----- End of execution no.8 -----

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice:

Test Case # 9 – User inputs “1” as the function to be executed; The input contains a combination of alpha-numeric characters and has spaces and it is a palindrome

```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:46:13 pm)

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 1

Input string: ACb b CA

The input (ACb b CA) is a palindrome.

----- End of execution no.9 -----

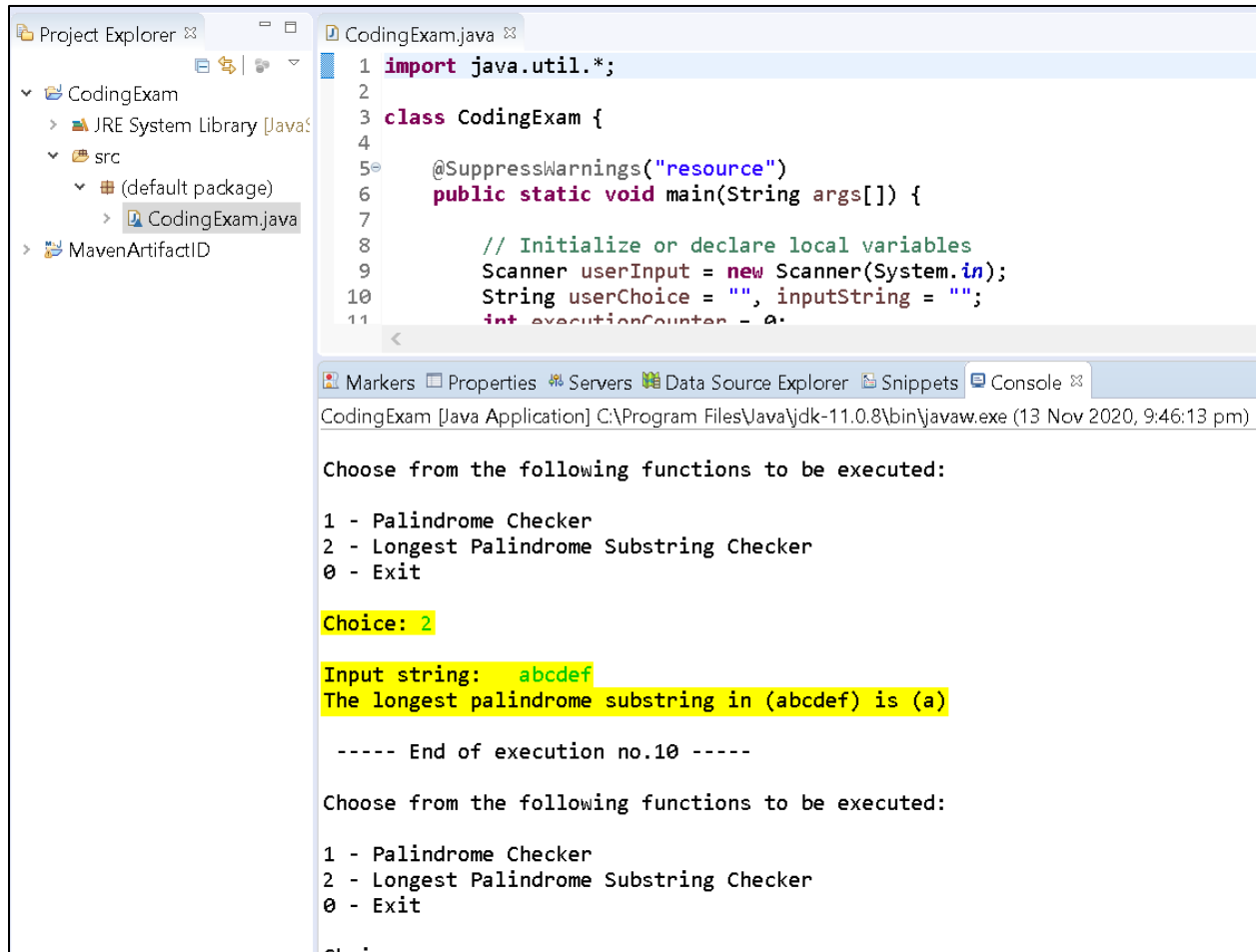
Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice:

Test Case # 10 – User inputs “2” as the function to be executed; The input does not contain any palindrome substring

Since there exist no palindrome substrings that has a length of more than one, it only retrieves the first character.



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```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

The 'Console' tab at the bottom shows the program's execution output:

```
CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:46:13 pm)

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice: 2

Input string: abcdef
The longest palindrome substring in (abcdef) is (a)

----- End of execution no.10 -----

Choose from the following functions to be executed:

1 - Palindrome Checker
2 - Longest Palindrome Substring Checker
0 - Exit

Choice:
```

Test Case # 11 – User inputs “2” as the function to be executed; The input does not contains a palindrome substring

```
1 import java.util.*;
2
3 class CodingExam {
4
5     @SuppressWarnings("resource")
6     public static void main(String args[]) {
7
8         // Initialize or declare local variables
9         Scanner userInput = new Scanner(System.in);
10        String userChoice = "", inputString = "";
11        int executionCounter = 0;
```

CodingExam [Java Application] C:\Program Files\Java\jdk-11.0.8\bin\javaw.exe (13 Nov 2020, 9:46:13 pm)

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit

Choice: 2

Input string: aDsbC^321XYzzYX123^abc%D\$

The longest palindrome substring in (aDsbC^321XYzzYX123^abc%D\$) is (^321XYzzYX123^)

----- End of execution no.11 -----

Choose from the following functions to be executed:

- 1 - Palindrome Checker
- 2 - Longest Palindrome Substring Checker
- 0 - Exit