

```

lab2.java > lab2 > main(String[])
1
2 // Exercises 1
3 import java.util.Scanner;
4
5 public class lab2 {
6     Run | Debug
7     public static void main(String[] args) {
8         Scanner scanner = new Scanner(System.in);
9
10        // Prompt user for input
11        System.out.print(s:"first num A: ");
12        int A = scanner.nextInt();
13        System.out.print(s:"second num B: ");
14        int B = scanner.nextInt();
15
16        int result = 0;
17
18        // Multiply A by B using repeated addition
19        for (int i = 0; i < Math.abs(B); i++) {
20            result += A;
21        }
22
23        // Print the final result
24        System.out.println("Final result: " + result);
25        scanner.close();
26    }
27 }
28

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

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```

PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Eclipse Adoptio
g\Code\User\workspaceStorage\93e546e7a86755100f58a741463f7d32\redhat.j
first num A: 5
second num B: 3
Final result: 15
PS C:\Users\Leopard\Desktop\Java>

```

lab2.java X

lab2.java > lab2

```
29 // Exercises 2
30 import java.util.Scanner;
31
32 public class lab2 {
33     Run | Debug
34     public static void main(String[] args) {
35         Scanner scanner = new Scanner(System.in);
36
37         int sum = 0;
38         int count = 0;
39
40         // Read numbers until 0 is entered and calculate sum and count
41         while (true) {
42             System.out.print(s:"Num A: ");
43             int A = scanner.nextInt();
44
45             if (A == 0) {
46                 break;
47             }
48
49             sum += A;
50             count++;
51         }
52
53         // Print average and count if count is not zero
54         if (count == 0) {
55             System.out.println(x:"Zero");
56         } else {
57             double average = (double) sum / count;
58             System.out.println("Average" + average);
59             System.out.println("Sum" + count);
60         }
61
62         scanner.close();
63     }
64 }
```

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Windows PowerShell

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```
PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Eclipse
n\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInException
\AppData\Roaming\Code\User\workspaceStorage\93e546e7a86755100f
Java_4a15de6a\bin' 'lab2'
```

Num A: 5

Num A: 23

Num A: 1

Num A: 56

Num A: 0

Average21.25

Sum4

PS C:\Users\Leopard\Desktop\Java>

J lab2.java X

J lab2.java > lab2 > main(String[])

```
65 // Exercises 3
66 import java.util.Scanner;
67
68 public class lab2 {
69     Run | Debug
70     public static void main(String[] args) {
71         Scanner scanner = new Scanner(System.in);
72
73         int count = 0;
74         int MaxNum = 0;
75
76         // Read numbers until 0 is entered and find the maximum number
77         while (true) {
78             System.out.print(s:"Num A: ");
79             int A = scanner.nextInt();
80
81             if (A == 0) {
82                 break;
83             }
84
85             count++;
86             if (A > MaxNum) {
87                 MaxNum = A;
88             }
89
90             // Print the maximum number if count is not zero
91             if (count == 0) {
92                 System.out.println(x:"Zero");
93             } else {
94                 System.out.println("Max number" + MaxNum);
95             }
96
97             scanner.close();
98         }
99     }
```

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Windows PowerShell
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PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Java\jdk-11.0.10\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetails' '%*' %*
C:\Users\Leopard\Desktop\Java> java -Xmx1024m -Xms128m -Djava.class.path=.\Java_4a15de6a\bin\lab2

Num A: 2

Num A: 5

Num A:

8

Num A: 5

Num A: 2

Num A: 0

Max number8

PS C:\Users\Leopard\Desktop\Java> []

lab2.java

lab2.java > lab2 > calculateSum(int)

```
101 // Exercises 4
102 import java.util.Scanner;
103
104 public class lab2 {
105     public static void main(String[] args) {
106         Scanner scanner = new Scanner(System.in);
107
108         System.out.print("Enter a number N: ");
109         int N = scanner.nextInt();
110
111         // Calculate the sum of the first N odd numbers
112         int sum = calculateSum(N);
113
114         // Print the final sum
115         System.out.println("Sum " + N + " final: " + sum);
116
117         scanner.close();
118     }
119
120     // Method to calculate the sum of the first N odd numbers
121     public static int calculateSum(int N) {
122         int sum = 0;
123         int currentNumber = 1;
124
125         for (int i = 0; i < N; i++) {
126             sum += currentNumber; // Adding the current number to the sum
127             currentNumber += 2; // Increasing the current number by 2 to get the next
128         }
129
130         return sum;
131     }
132 }
```

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Windows PowerShell

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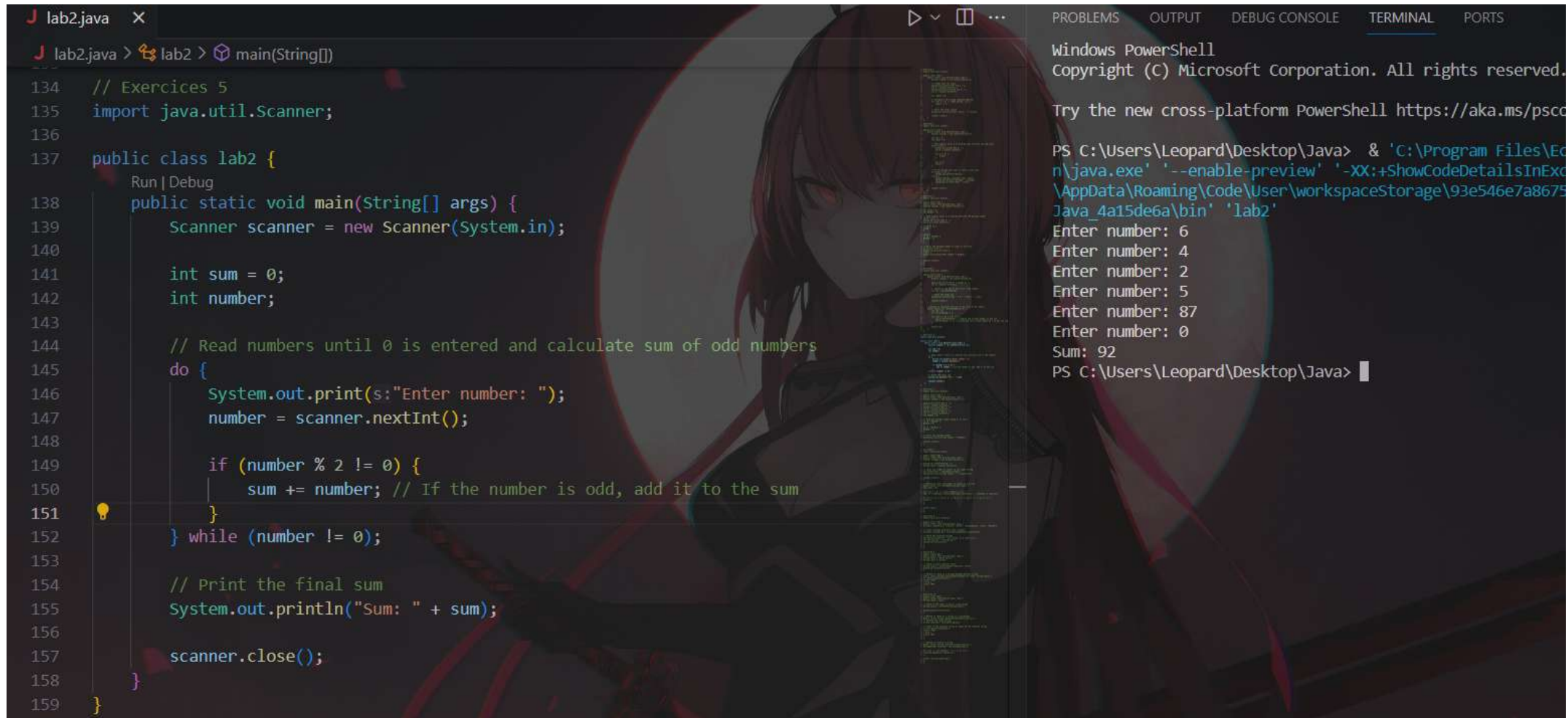
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```
PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Java\jdk-11.0.10\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' -jar C:\Users\Leopard\AppData\Roaming\Code\User\workspaceStorage\93e546e7a80c4a15de6a\bin\lab2.jar
```

Enter a number N: 6

Sum 6 final: 36

```
PS C:\Users\Leopard\Desktop\Java>
```



```
lab2.java x
lab2.java > lab2 > main(String[])

134 // Exercices 5
135 import java.util.Scanner;
136
137 public class lab2 {
138     public static void main(String[] args) {
139         Scanner scanner = new Scanner(System.in);
140
141         int sum = 0;
142         int number;
143
144         // Read numbers until 0 is entered and calculate sum of odd numbers
145         do {
146             System.out.print(s:"Enter number: ");
147             number = scanner.nextInt();
148
149             if (number % 2 != 0) {
150                 sum += number; // If the number is odd, add it to the sum
151             }
152         } while (number != 0);
153
154         // Print the final sum
155         System.out.println("Sum: " + sum);
156
157         scanner.close();
158     }
159 }
```

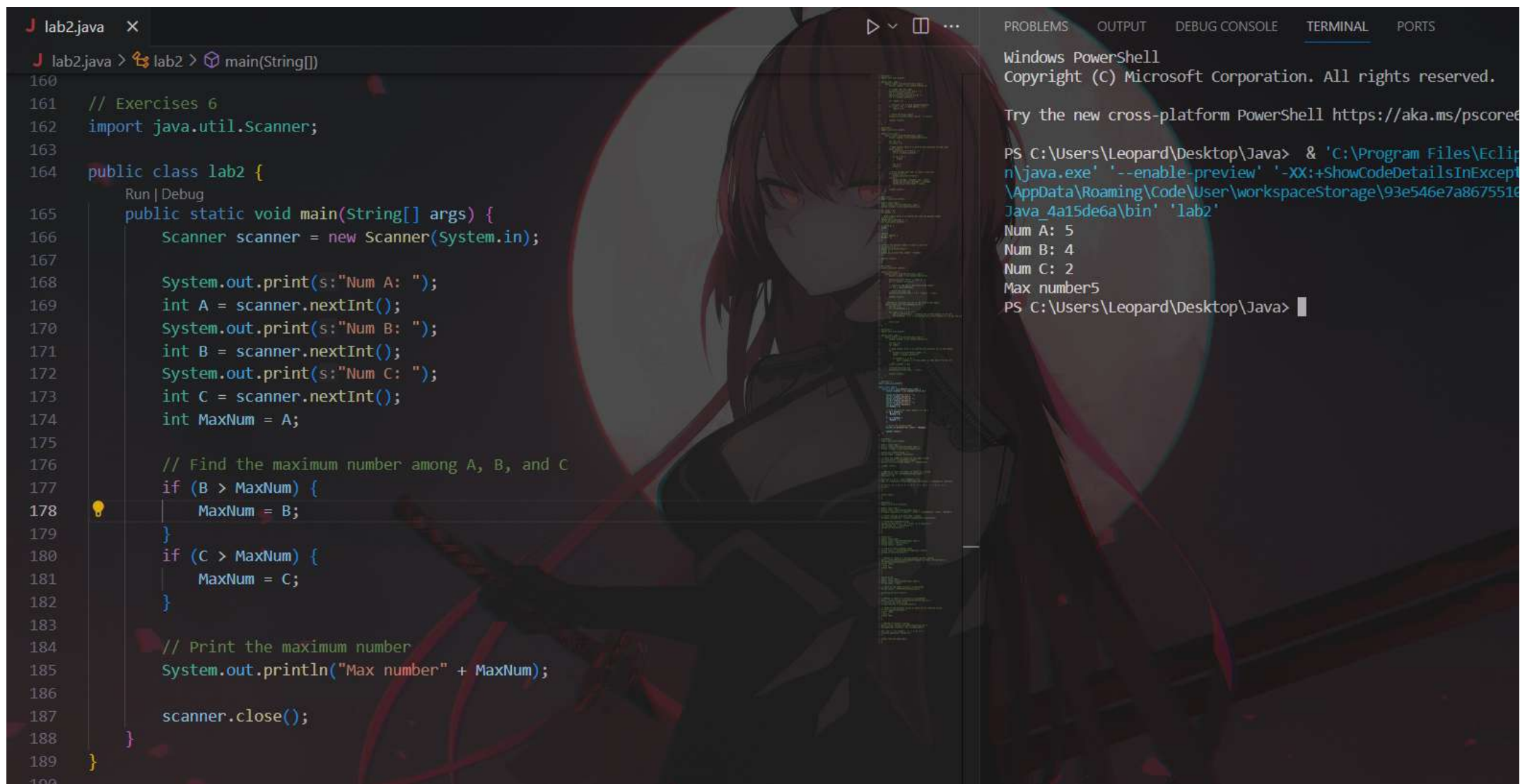
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PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Easy Java IDE\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionStack' -jar 'C:\Users\Leopard\Desktop\Java\Java_4a15de6a\bin\lab2.jar'

Enter number: 6
Enter number: 4
Enter number: 2
Enter number: 5
Enter number: 87
Enter number: 0
Sum: 92
PS C:\Users\Leopard\Desktop\Java>



```
lab2.java x
lab2.java > lab2 > main(String[])
160
161 // Exercises 6
162 import java.util.Scanner;
163
164 public class lab2 {
165     Run | Debug
166     public static void main(String[] args) {
167         Scanner scanner = new Scanner(System.in);
168
169         System.out.print(s:"Num A: ");
170         int A = scanner.nextInt();
171         System.out.print(s:"Num B: ");
172         int B = scanner.nextInt();
173         System.out.print(s:"Num C: ");
174         int C = scanner.nextInt();
175         int MaxNum = A;
176
177         // Find the maximum number among A, B, and C
178         if (B > MaxNum) {
179             MaxNum = B;
180         }
181         if (C > MaxNum) {
182             MaxNum = C;
183         }
184
185         // Print the maximum number
186         System.out.println("Max number" + MaxNum);
187
188         scanner.close();
189     }
190 }
```

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PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Eclipse Software\ eclipse\ eclip\n\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionStack' -Xmx1024m -Djava.library.path=C:\Users\Leopard\AppData\Roaming\Code\User\workspaceStorage\93e546e7a8675516\Java_4a15de6a\bin 'lab2'

Num A: 5
Num B: 4
Num C: 2
Max number5
PS C:\Users\Leopard\Desktop\Java>

lab2.java

lab2.java > lab2 > countVowels(String)

```
191 // Exercises 7
192 import java.util.Scanner;
193
194 public class lab2 {
195     Run | Debug
196     public static void main(String[] args) {
197         Scanner scanner = new Scanner(System.in);
198
199         System.out.print(s:"Srting: ");
200         String input = scanner.nextLine();
201
202         // Count the number of vowels in the input string
203         int vowelsCount = countVowels(input);
204         System.out.println("Sum Vowels: " + vowelsCount);
205
206         scanner.close();
207     }
208
209     // Method to count the number of vowels in a string
210     public static int countVowels(String input) {
211         int count = 0;
212
213         for (int i = 0; i < input.length(); i++) {
214             char ch = Character.toLowerCase(input.charAt(i)); // Changing to lowercase
215
216             if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
217                 count++;
218             }
219
220             return count;
221         }
222     }
```

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```
PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Eclips
n\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExcep
\AppData\Roaming\Code\User\workspaceStorage\93e546e7a867551
Java_4a15de6a\bin' 'lab2'
```

Srting: zero

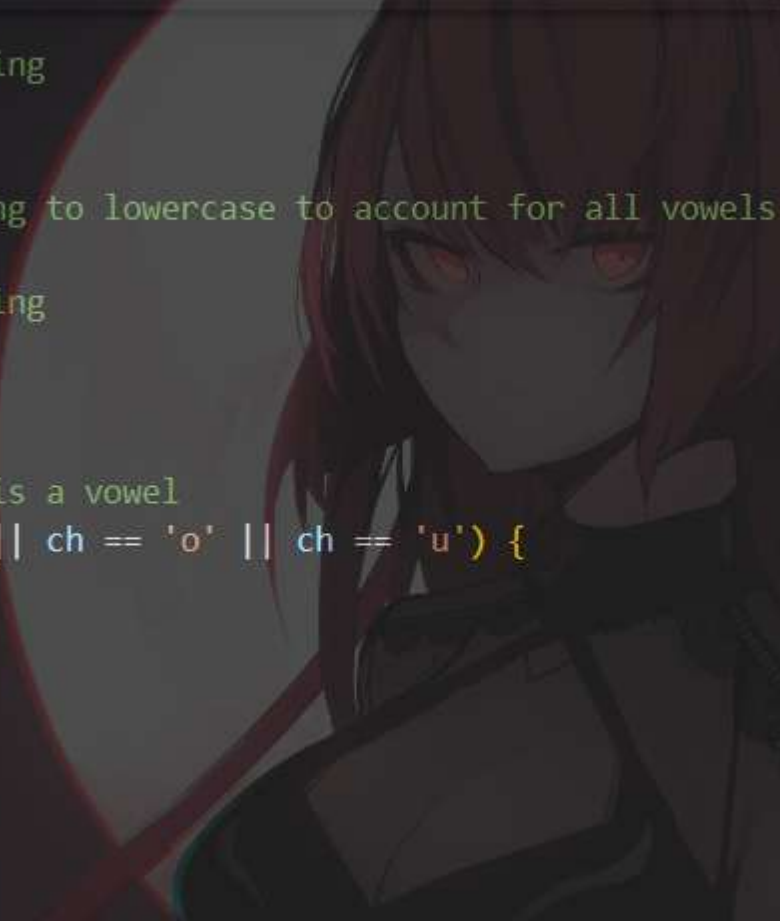
Sum Vowels: 2

```
PS C:\Users\Leopard\Desktop\Java>
```

lab2.java X

lab2.java > lab2 > main(String[])

```
259
260 // Method to count the number of vowels in a string
261 public static int countVowels(String str) {
262     int count = 0;
263     str = str.toLowerCase(); // Convert the string to lowercase to account for all vowels
264
265     // Iterate through each character in the string
266     for (int i = 0; i < str.length(); i++) {
267         char ch = str.charAt(i);
268
269         // Increment the count if the character is a vowel
270         if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
271             count++;
272         }
273     }
274
275     return count;
276 }
277 }
278
```



lab2.java

lab2.java > lab2 > main(String[])

```
224 // Exercises 8
225 import java.util.ArrayList;
226
227 public class lab2 {
228     public static void main(String[] args) {
229         String[] inputArray = { "Hello", "world", "programming", "Java", "OpenAI", "zeeeero" };
230
231         // Call the method to filter strings with more than 4 vowels
232         String[] resultArray = filterStringsWithMoreThanFourVowels(inputArray);
233
234         System.out.println(x:"Strings with more than 4 vowels:");
235         for (String str : resultArray) {
236             System.out.println(str);
237         }
238     }
239
240     // Method to filter strings with more than 4 vowels
241     public static String[] filterStringsWithMoreThanFourVowels(String[] inputArray) {
242         ArrayList<String> resultList = new ArrayList<>();
243
244         // Iterate through each string in the input array
245         for (String str : inputArray) {
246             // If the count of vowels in the string is greater than 4, add it to the result
247             // list
248             if (countVowels(str) > 4) {
249                 resultList.add(str);
250             }
251         }
252
253         // Convert ArrayList to array of strings
254         String[] resultArray = new String[resultList.size()];
255         resultArray = resultList.toArray(resultArray);
256
257         return resultArray;
258     }
259
260     // Method to count the number of vowels in a string
261     public static int countVowels(String str) {
```

Run | Debug

PROBLEMS OUTPUT TERMINAL

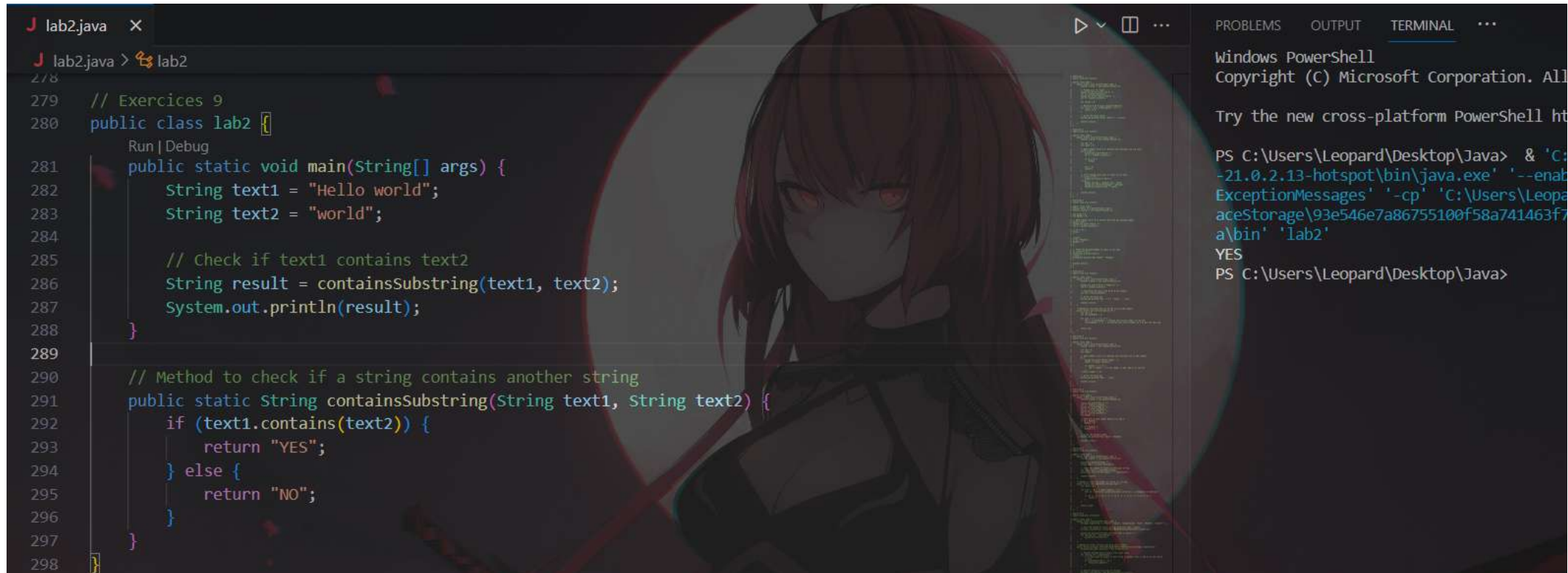
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PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Java\jdk-21.0.2.13-hotspot\bin\java.exe' --enable-ExceptionMessages -cp 'C:\Users\Leopard\OneDrive\Documents\Java\lab2\bin' 'lab2'

Strings with more than 4 vowels:
zeeeero

PS C:\Users\Leopard\Desktop\Java>



lab2.java

lab2.java > lab2 > reverseString(String)

```
300 // Exercices 10
301 public class lab2 {
302     Run | Debug
303     public static void main(String[] args) {
304         String input = "wow";
305
306         // Check if the input string is a palindrome
307         String result = checkIfPalindrome(input);
308
309         System.out.println(result);
310     }
311
312     // Method to check if a string is a palindrome
313     public static String checkIfPalindrome(String str) {
314         // Reverse the input string
315         String reversed = reverseString(str);
316
317         // Check if the original string is equal to the reversed string
318         if (str.equals(reversed)) {
319             return "YES";
320         } else {
321             return "NO";
322         }
323     }
324
325     // Method to reverse a string
326     public static String reverseString(String str) {
327         StringBuilder reversed = new StringBuilder();
328
329         for (int i = str.length() - 1; i >= 0; i--) {
330             reversed.append(str.charAt(i));
331         }
332
333         return reversed.toString();
334     }
335 }
```

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PS C:\Users\Leopard\Desktop\Java> & 'C:\Program Files\Java\jdk-21.0.2-hotspot\bin\java.exe' '--enable-exception-messages' '-cp' 'C:\Users\Leopard\Desktop\Java\bin\lab2'

YES

PS C:\Users\Leopard\Desktop\Java>