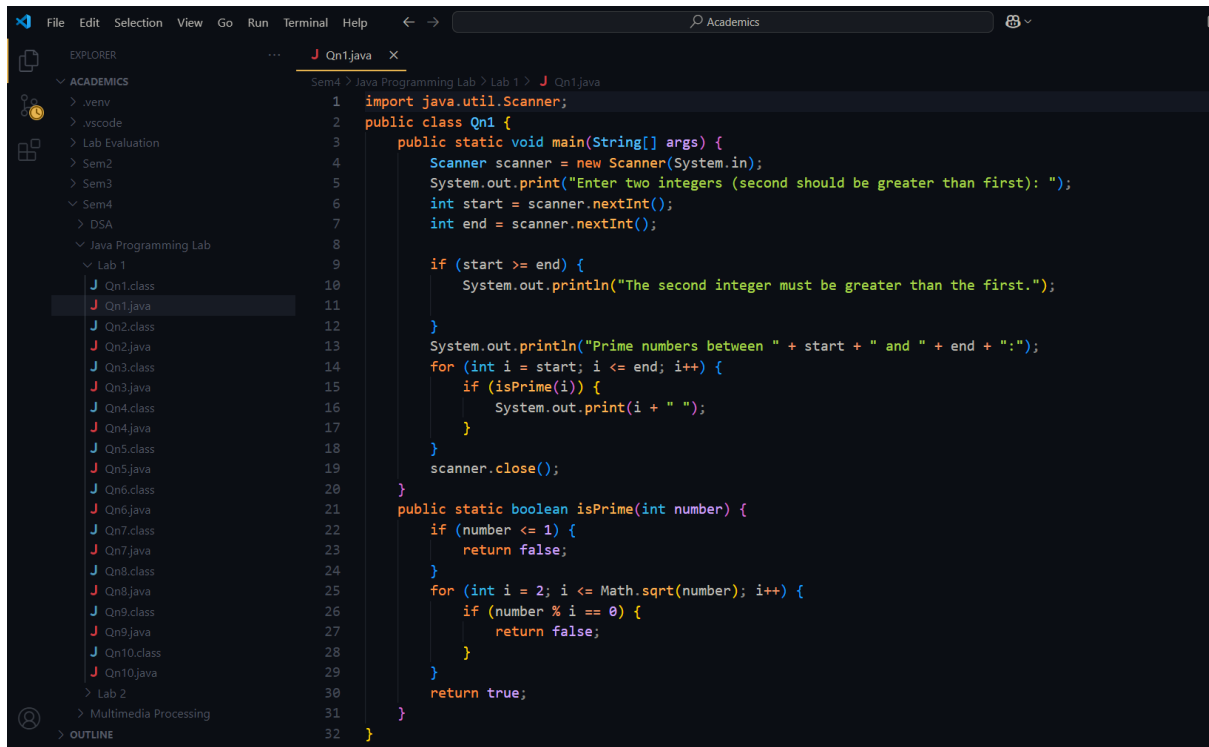


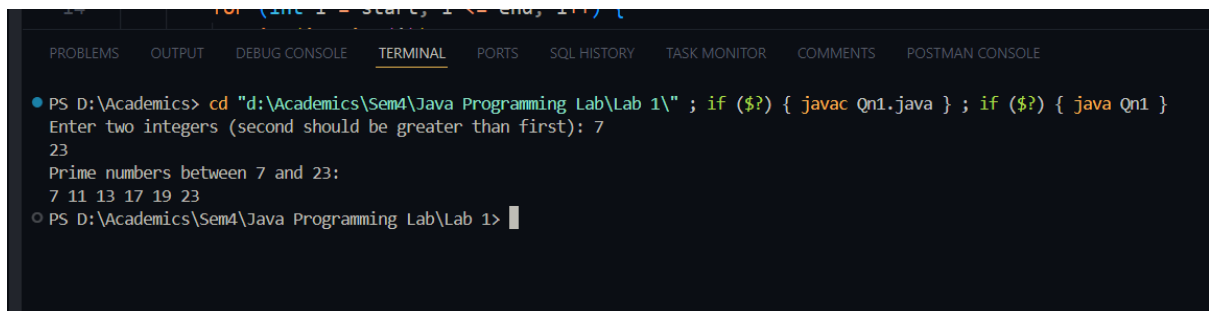
EX-1

1,Code:



```
1 import java.util.Scanner;
2 public class Qn1 {
3     public static void main(String[] args) {
4         Scanner scanner = new Scanner(System.in);
5         System.out.print("Enter two integers (second should be greater than first): ");
6         int start = scanner.nextInt();
7         int end = scanner.nextInt();
8
9         if (start >= end) {
10             System.out.println("The second integer must be greater than the first.");
11         }
12         System.out.println("Prime numbers between " + start + " and " + end + ":");
13         for (int i = start; i <= end; i++) {
14             if (isPrime(i)) {
15                 System.out.print(i + " ");
16             }
17         }
18         scanner.close();
19     }
20     public static boolean isPrime(int number) {
21         if (number <= 1) {
22             return false;
23         }
24         for (int i = 2; i <= Math.sqrt(number); i++) {
25             if (number % i == 0) {
26                 return false;
27             }
28         }
29         return true;
30     }
31 }
32 }
```

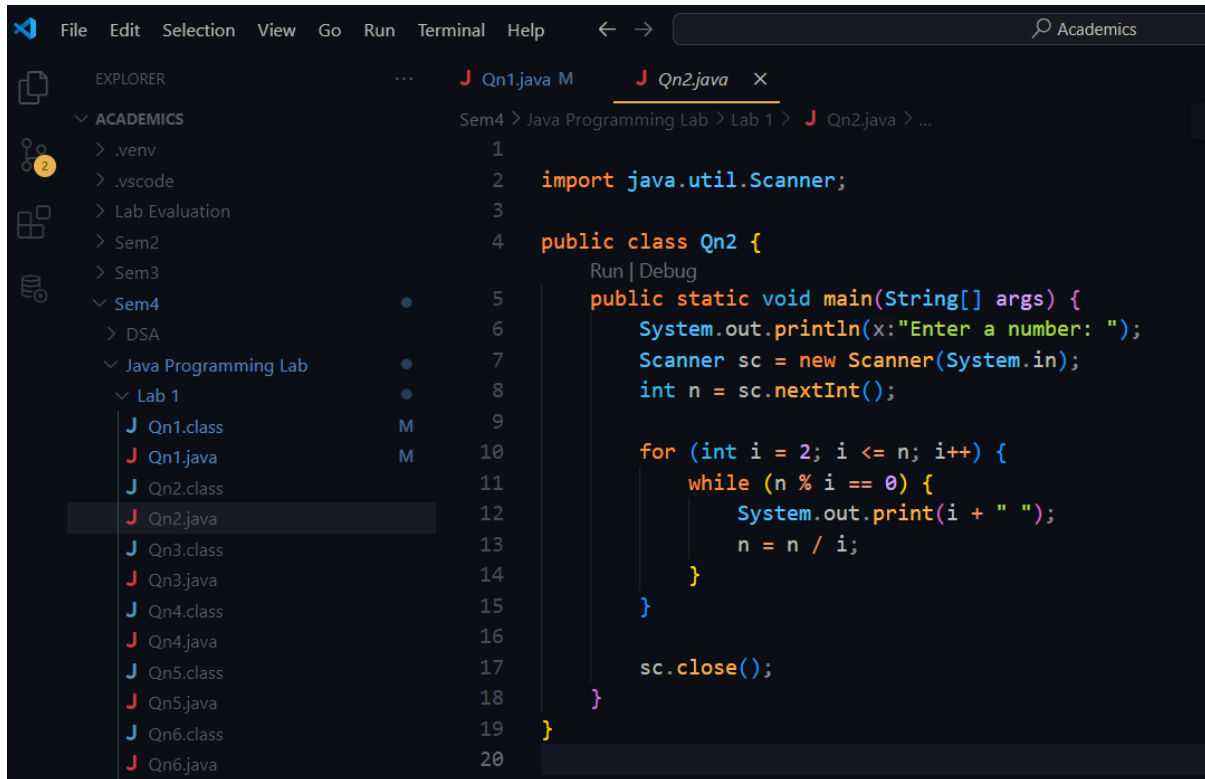
Output:



```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1" ; if ($?) { javac Qn1.java } ; if ($?) { java Qn1 }
Enter two integers (second should be greater than first): 7
23
Prime numbers between 7 and 23:
7 11 13 17 19 23
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>
```

Qn2,

Code:



```
1
2 import java.util.Scanner;
3
4 public class Qn2 {
5     public static void main(String[] args) {
6         System.out.println("Enter a number: ");
7         Scanner sc = new Scanner(System.in);
8         int n = sc.nextInt();
9
10        for (int i = 2; i <= n; i++) {
11            while (n % i == 0) {
12                System.out.print(i + " ");
13                n = n / i;
14            }
15        }
16
17        sc.close();
18    }
19 }
20
```


Output:



```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1\" ; if ($?) { javac Qn2.java } ; if ($?) { java Qn2 }
Enter a number:
144
Prime factors of 144:
2 2 2 2 3 3
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>
```

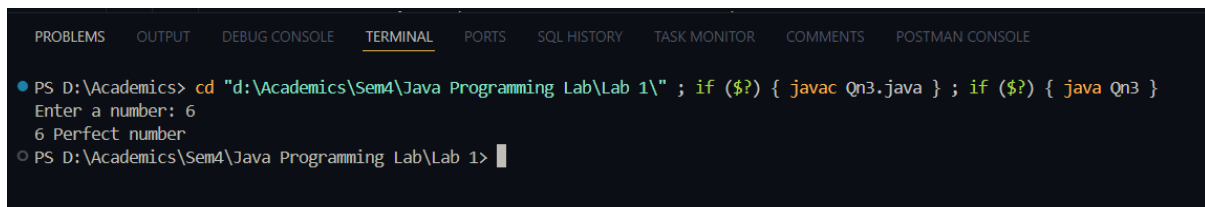
Qn3

Code:



```
1 public class Qn3 {
2     Run | Debug
3     public static void main(String[] args) {
4         System.out.print(s:"Enter a number: ");
5         java.util.Scanner sc = new java.util.Scanner(System.in);
6         int num = sc.nextInt();
7         int sum = 0;
8
9         for(int i = 1; i < num; i++) {
10             if(num % i == 0) {
11                 sum += i;
12             }
13         }
14
15         if(sum == num) {
16             System.out.println(num + " Perfect number");
17         } else {
18             System.out.println(num + " Not perfect number");
19         }
20
21         sc.close();
22     }
23 }
```

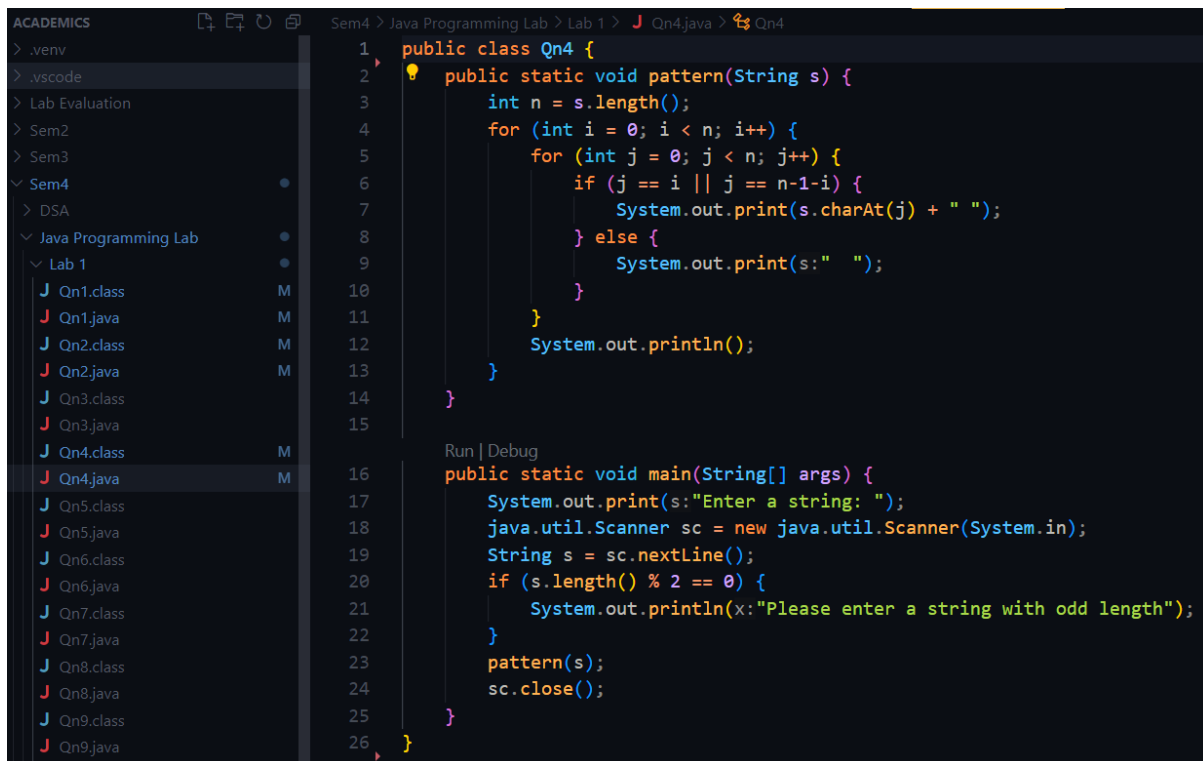
Output:



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SQL HISTORY TASK MONITOR COMMENTS POSTMAN CONSOLE
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1\" ; if ($?) { javac Qn3.java } ; if ($?) { java Qn3 }
Enter a number: 6
6 Perfect number
PS D:\Academics\Sem4\Java Programming Lab\Lab 1> |
```

Qn 4,

Code:



```
1 public class Qn4 {
2     public static void pattern(String s) {
3         int n = s.length();
4         for (int i = 0; i < n; i++) {
5             for (int j = 0; j < n; j++) {
6                 if (j == i || j == n-1-i) {
7                     System.out.print(s.charAt(j) + " ");
8                 } else {
9                     System.out.print(" ");
10                }
11            }
12            System.out.println();
13        }
14    }
15
16    public static void main(String[] args) {
17        System.out.print(s:"Enter a string: ");
18        java.util.Scanner sc = new java.util.Scanner(System.in);
19        String s = sc.nextLine();
20        if (s.length() % 2 == 0) {
21            System.out.println(x:"Please enter a string with odd length");
22        }
23        pattern(s);
24        sc.close();
25    }
26 }
```

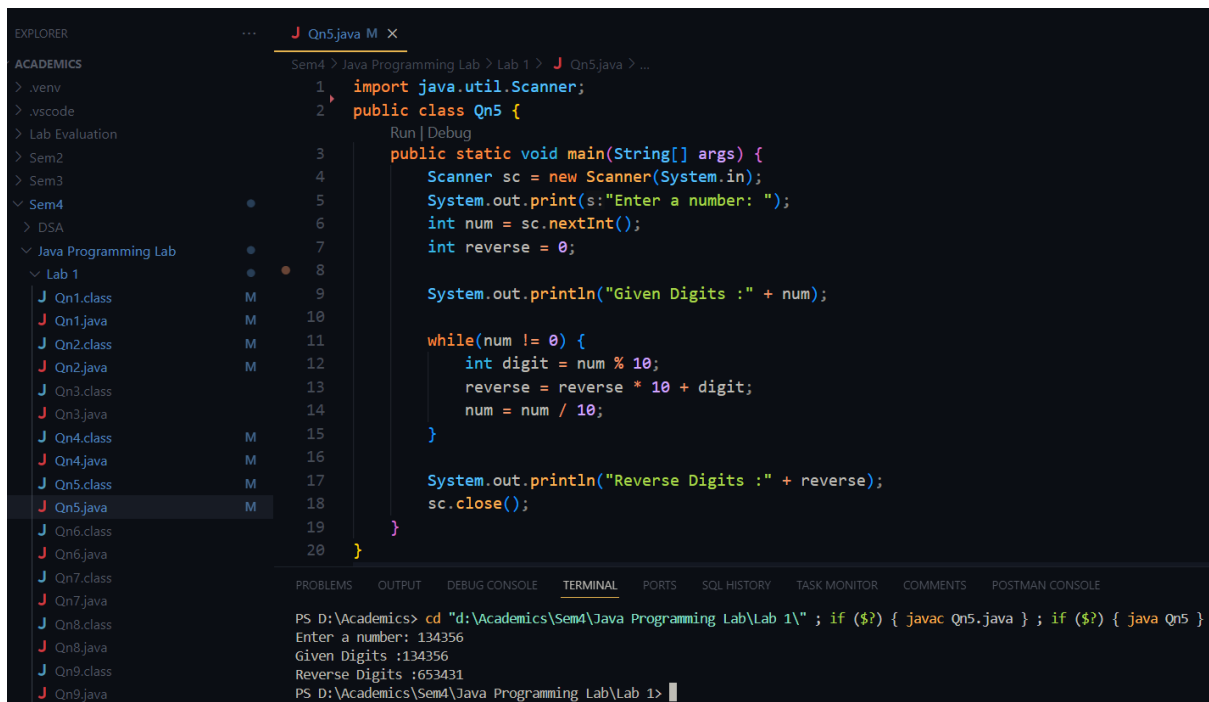
Output:



```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1\" ; if ($?) { javac Qn4.java } ; if ($?) { java Qn4 }
Enter a string: Hello World
H
 e   l
  e  l   r
   l  o   o
    o  W
     o  W
      l  o
       l  r
        e  l
         H   d
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>
```

Qn5,

Code& Output :




The screenshot shows a VS Code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project structure with a folder 'Sem4' containing a subfolder 'Java Programming Lab' which has a subfolder 'Lab 1'. Inside 'Lab 1', there are several Java files, including 'Qn5.java'. The code editor shows the content of 'Qn5.java', which is a Java program to reverse a number. The terminal at the bottom shows the command to run the program and its output.

```
1 import java.util.Scanner;
2 public class Qn5 {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.print(s:"Enter a number: ");
6         int num = sc.nextInt();
7         int reverse = 0;
8
9         System.out.println("Given Digits : " + num);
10
11         while(num != 0) {
12             int digit = num % 10;
13             reverse = reverse * 10 + digit;
14             num = num / 10;
15         }
16
17         System.out.println("Reverse Digits : " + reverse);
18         sc.close();
19     }
20 }
```

PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1\" ; if (\$?) { javac Qn5.java } ; if (\$?) { java Qn5 }
Enter a number: 134356
Given Digits :134356
Reverse Digits :653431
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>

Qn6,

Code&Output:



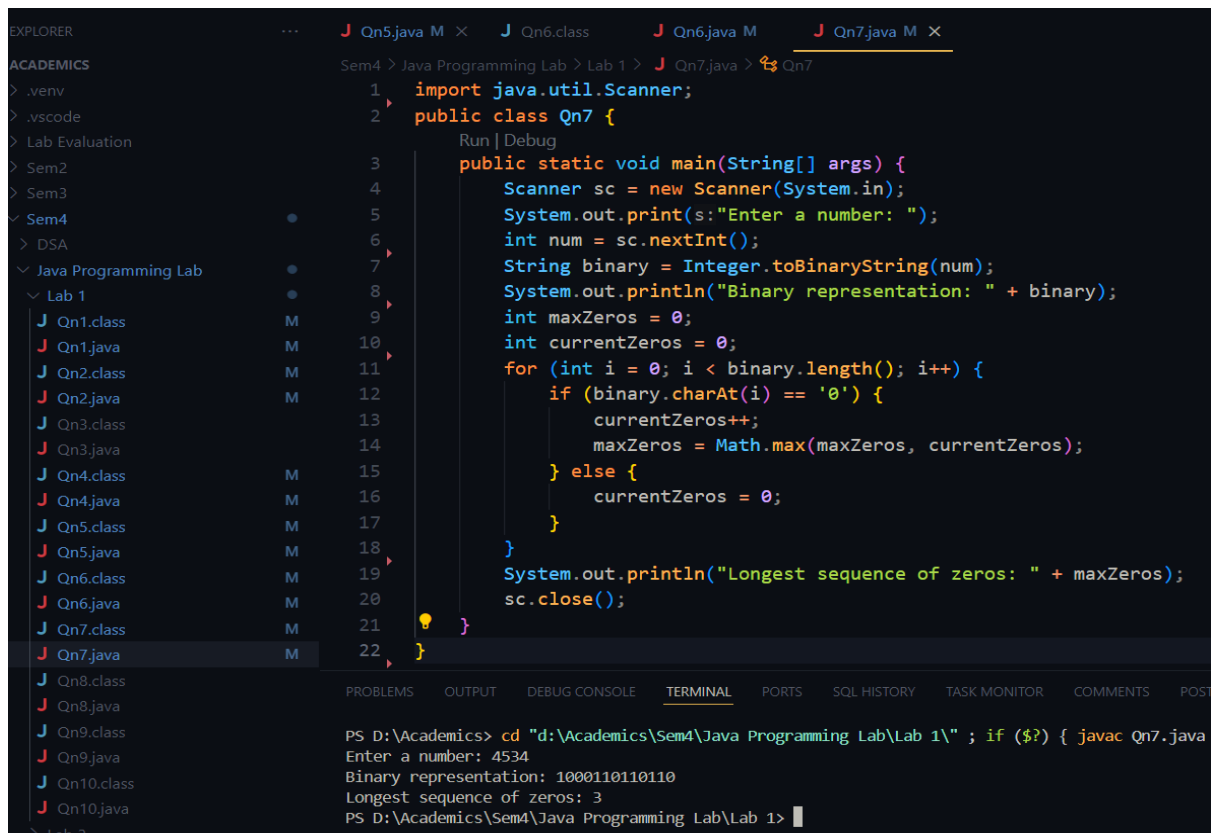
The screenshot shows a VS Code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project structure with a folder 'Sem4' containing a subfolder 'Java Programming Lab' which has a subfolder 'Lab 1'. Inside 'Lab 1', there are several Java files, including 'Qn6.java'. The code editor shows the content of 'Qn6.java', which is a Java program to calculate the sum of even and odd numbers. The terminal at the bottom shows the command to run the program and its output.

```
1 import java.util.Scanner;
2 public class Qn6 {
3     public static void main(String[] args) {
4         System.out.println(x:"Enter Enter richie's Number, Riya's Number and Number of Turns ");
5         Scanner sc = new Scanner(System.in);
6         long a = sc.nextLong();
7         long b = sc.nextLong();
8         int n = sc.nextInt();
9         for(int i = 0; i < n; i++) {
10             if(i % 2 == 0) {
11                 a *= 2;
12             } else {
13                 b *= 2;
14             }
15         }
16         System.out.println(a + b);
17         sc.close();
18     }
19 }
```

PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1\" ; if (\$?) { javac Qn6.java } ; if (\$?) { java Qn6 }
Enter Enter richie's Number, Riya's Number and Number of Turns
3
5
7
88
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>

Qn7,

Code & Output:



The screenshot shows the VS Code editor with a file explorer on the left and a code editor in the center. The file explorer shows a project structure with a folder named 'Java Programming Lab' containing a subfolder 'Lab 1' with files Qn1.class through Qn10.class. The code editor displays the source code for Qn7.java, which is a Java program to find the longest sequence of zeros in a binary representation of a number. The terminal at the bottom shows the command to run the program and its output.

```
1 import java.util.Scanner;
2 public class Qn7 {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.print(s:"Enter a number: ");
6         int num = sc.nextInt();
7         String binary = Integer.toBinaryString(num);
8         System.out.println("Binary representation: " + binary);
9         int maxZeros = 0;
10        int currentZeros = 0;
11        for (int i = 0; i < binary.length(); i++) {
12            if (binary.charAt(i) == '0') {
13                currentZeros++;
14                maxZeros = Math.max(maxZeros, currentZeros);
15            } else {
16                currentZeros = 0;
17            }
18        }
19        System.out.println("Longest sequence of zeros: " + maxZeros);
20        sc.close();
21    }
22 }
```

PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1" ; if (\$?) { javac Qn7.java }
Enter a number: 4534
Binary representation: 1000110110110
Longest sequence of zeros: 3
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>

Qn8,

Code & Output:



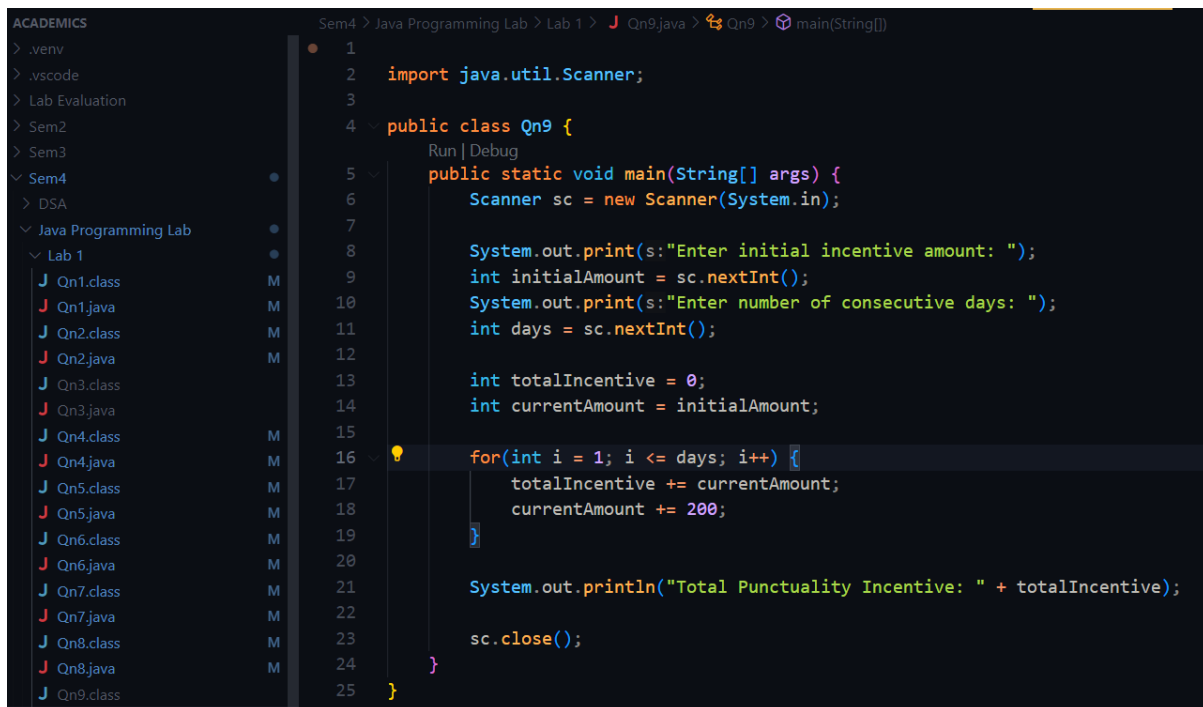
The screenshot shows the VS Code editor with a file explorer on the left and a code editor in the center. The file explorer shows a project structure with a folder named 'Java Programming Lab' containing a subfolder 'Lab 1' with files Qn1.class through Qn10.class. The code editor displays the source code for Qn8.java, which is a Java program to calculate the sum of the series 1 + 1/1! + 1/2! + ... + 1/n!. The terminal at the bottom shows the command to run the program and its output.

```
1 import java.util.Scanner;
2 public class Qn8 {
3     public static void main(String[] args) {
4         System.out.print(s:"Enter teh Number: ");
5         Scanner sc = new Scanner(System.in);
6         int n = sc.nextInt();
7         double sum = 0;
8         for(int i = 1; i <= n; i++) {
9             sum += i/factorial(i);
10        }
11        System.out.println(sum);
12        sc.close();
13    }
14    public static double factorial(int n) {
15        double fact = 1;
16        for(int i = 1; i <= n; i++) {
17            fact *= i;
18        }
19        return fact;
20    }
21 }
```

PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1" ; if (\$?) { javac Qn8.java } ; if (\$?) { java Qn8 }
Enter teh Number: 10
2.7182815255731922
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>


Qn 9,

Code:



```
1
2 import java.util.Scanner;
3
4 public class Qn9 {
5     public static void main(String[] args) {
6         Scanner sc = new Scanner(System.in);
7
8         System.out.print("Enter initial incentive amount: ");
9         int initialAmount = sc.nextInt();
10        System.out.print("Enter number of consecutive days: ");
11        int days = sc.nextInt();
12
13        int totalIncentive = 0;
14        int currentAmount = initialAmount;
15
16        for(int i = 1; i <= days; i++) {
17            totalIncentive += currentAmount;
18            currentAmount += 200;
19        }
20
21        System.out.println("Total Punctuality Incentive: " + totalIncentive);
22
23        sc.close();
24    }
25 }
```

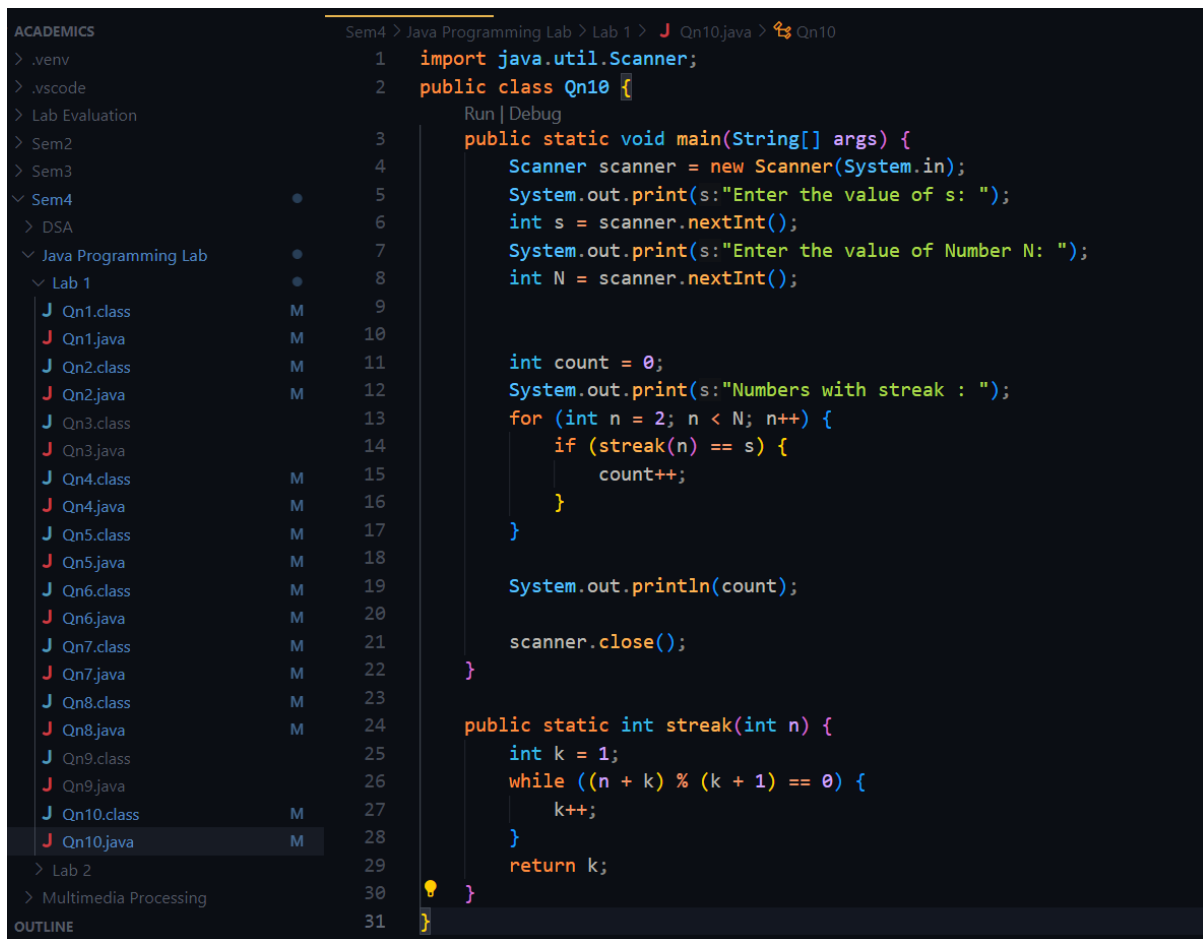
Output:



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SQL HISTORY TASK MONITOR COMMENTS POSTMAN CONSOLE
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1" ; if ($?) { javac Qn9.java } ; if ($?) { java Qn9 }
Enter initial incentive amount: 200
Enter number of consecutive days: 5
Total Punctuality Incentive: 3000
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>
```

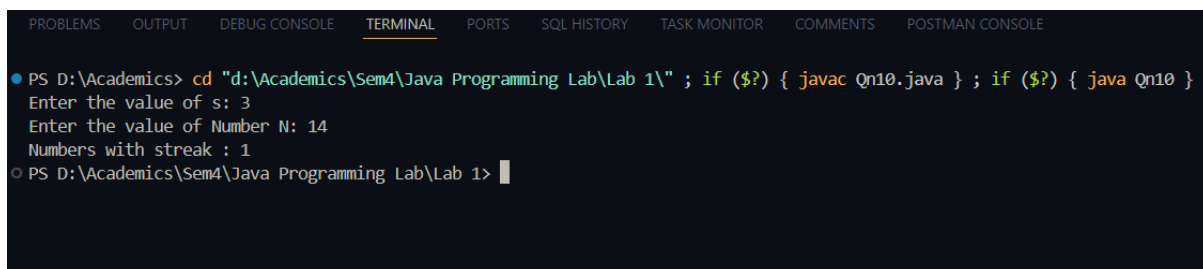
Qn10,

Code:



```
1 import java.util.Scanner;
2 public class Qn10 {
3     Run | Debug
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6         System.out.print(s:"Enter the value of s: ");
7         int s = scanner.nextInt();
8         System.out.print(s:"Enter the value of Number N: ");
9         int N = scanner.nextInt();
10
11         int count = 0;
12         System.out.print(s:"Numbers with streak : ");
13         for (int n = 2; n < N; n++) {
14             if (streak(n) == s) {
15                 count++;
16             }
17         }
18
19         System.out.println(count);
20
21         scanner.close();
22     }
23
24     public static int streak(int n) {
25         int k = 1;
26         while ((n + k) % (k + 1) == 0) {
27             k++;
28         }
29         return k;
30     }
31 }
```

Output:



```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab 1\" ; if ($?) { javac Qn10.java } ; if ($?) { java Qn10 }
Enter the value of s: 3
Enter the value of Number N: 14
Numbers with streak : 1
PS D:\Academics\Sem4\Java Programming Lab\Lab 1>
```