

Question 1: Write a Java Program that adds two numbers

Certainly! Here's the Java program that adds two numbers with comments explaining what each line does:

```
```java
import java.util.Scanner; // Import the Scanner class from the java.util package for user input

public class AddTwoNumbers {
 public static void main(String[] args) {
 Scanner scanner = new Scanner(System.in); // Create a Scanner object to read user input

 System.out.print("Enter the first number: "); // Prompt the user to enter the first number
 double num1 = scanner.nextDouble(); // Read the first number entered by the user

 System.out.print("Enter the second number: "); // Prompt the user to enter the second number
 double num2 = scanner.nextDouble(); // Read the second number entered by the user

 double sum = num1 + num2; // Calculate the sum of the two numbers

 System.out.println("The sum of " + num1 + " and " + num2 + " is: " + sum); // Display the sum

 scanner.close(); // Close the Scanner to release resources
 }
}
```

Question 2: Write a Java Program to check whether the program is even or odd

```
import java.util.Scanner; // Import the Scanner class from the java.util package for user input

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

```

Scanner scanner = new Scanner(System.in); // Create a Scanner object to read user input

System.out.print("Enter a number: "); // Prompt the user to enter a number
int number = scanner.nextInt(); // Read the number entered by the user

if (number % 2 == 0) { // Check if the remainder when dividing the number by 2 is 0
 System.out.println(number + " is even."); // Display that the number is even
} else {
 System.out.println(number + " is odd."); // Display that the number is odd
}

scanner.close(); // Close the Scanner to release resources
}
}

```

Question 3: Write a java program to check if a number is palindrome or not

Certainly! Here's a Java program that checks whether a given number is a palindrome or not:

```

```java
import java.util.Scanner; // Import the Scanner class from the java.util package for user input

public class PalindromeChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in); // Create a Scanner object to read user input

        System.out.print("Enter a number: "); // Prompt the user to enter a number
        int number = scanner.nextInt(); // Read the number entered by the user

        int originalNumber = number;
        int reversedNumber = 0;
    }
}

```

```

while (number > 0) {
    int digit = number % 10;
    reversedNumber = reversedNumber * 10 + digit;
    number /= 10;
}

if (originalNumber == reversedNumber) {
    System.out.println(originalNumber + " is a palindrome.");
} else {
    System.out.println(originalNumber + " is not a palindrome.");
}

scanner.close(); // Close the Scanner to release resources
}
}

```

Question 4: Write a java program to check the sum of n natural numbers

```
import java.util.Scanner; // Import the Scanner class from the java.util package for user input
```

```

public class SumOfNaturalNumbers {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in); // Create a Scanner object to read user input

        System.out.print("Enter a positive integer n: "); // Prompt the user to enter a positive integer
        int n = scanner.nextInt(); // Read the integer entered by the user

        if (n < 1) {
            System.out.println("Please enter a positive integer.");
        } else {

```

```

        int sum = calculateSum(n); // Call the method to calculate the sum

        System.out.println("The sum of the first " + n + " natural numbers is: " + sum);
    }

    scanner.close(); // Close the Scanner to release resources
}

public static int calculateSum(int n) {
    int sum = 0;

    for (int i = 1; i <= n; i++) {
        sum += i;
    }

    return sum;
}
}

```

Question 5: Write a java program to check prime number or not

```
import java.util.Scanner; // Import the Scanner class from the java.util package for user input
```

```

public class PrimeNumberChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in); // Create a Scanner object to read user input

        System.out.print("Enter a positive integer: "); // Prompt the user to enter a positive integer
        int number = scanner.nextInt(); // Read the integer entered by the user

        if (isPrime(number)) {

```

```
        System.out.println(number + " is a prime number.");
    } else {
        System.out.println(number + " is not a prime number.");
    }

    scanner.close(); // Close the Scanner to release resources
}

public static boolean isPrime(int n) {
    if (n <= 1) {
        return false; // 1 and negative numbers are not prime
    }

    for (int i = 2; i <= Math.sqrt(n); i++) {
        if (n % i == 0) {
            return false; // If n is divisible by any number between 2 and its square root, it's not prime
        }
    }

    return true;
}
}
```