Q.1

public class CompareSums {

    public static void main(String[] args) {

        int a = 10;

        int b = 15;

        int c = 7;

        int d = 8;

        int sumAB = a + b;

        int sumCD = c + d;

        if (sumAB > sumCD) {

            System.out.println("The sum of a and b is greater than the sum of c and d.");

        }

    }

}

Q2

public class EvenNumberChecker {

    public static void main(String[] args) {

        int number = 42;

        if (number % 2 == 0) {

            System.out.println(number + " is an even number.");

        } else {

            System.out.println(number + " is not an even number.");

        }

    }

}

Q3

public class Vinayak {

    public static void main(String[] args) {

            char alphabets = 'A';

            for (int i = 1; i <=26; i++) {

                System.out.println(alphabets);

                alphabets++;

            }

            }

        }

Q4

import java.util.Scanner;

public class Vinayak {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the value of a: ");

        int a = scanner.nextInt();

        System.out.print("Enter the value of b: ");

        int b = scanner.nextInt();

        System.out.println("Before swapping: a = " + a + ", b = " + b);

        // Swapping the values of a and b

        int temp = a;

        a = b;

        b = temp;

        System.out.println("After swapping: a = " + a + ", b = " + b);

    }

}

Q5.

import java.util.Scanner;

public class Vinayak {

  public static void main(String[] args) {

    System.out.println("Please enter the number");

    Scanner sc = new Scanner(System.in);

    int num = sc.nextInt(), i = 2;

    boolean flag = false;

    while (i <= num / 2) {

      // condition for nonprime number

      if (num % i == 0) {

        flag = true;

        break;

      }

      ++i;

    }

    if (!flag)

      System.out.println(num + " is a prime number.");

    else

      System.out.println(num + " is not a prime number.");

  }

}

Q7

public class Vinayak {

    public static void main(String[] args) {

        String msg = "Guvi Geek";

        int length = msg.length();

        System.out.println("The length of the string \"" + msg + "\" is: " + length);

    }

}

Q6.

import java.util.Scanner;

public class Vinayak {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a number: ");

        int number = scanner.nextInt();

        long factorial = calculateFactorial(number);

        System.out.println("The factorial of " + number + " is: " + factorial);

    }

    public static long calculateFactorial(int number) {

        if (number < 0) {

            throw new IllegalArgumentException("Factorial is not defined for negative numbers.");

        }

        long factorial = 1;

        for (int i = 1; i <= number; i++) {

            factorial \*= i;

        }

        return factorial;

    }

}

Q8

public class Vinayak {

    public static void main(String[] args) {

        String msg = "Guvi Geek";

        int length = msg.length();

        System.out.println("The length of the string \"" + msg + "\" is: " + length);

    }

}

Q9

import java.util.Scanner;

public class Vinayak {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter your age: ");

        int age = scanner.nextInt();

        if (age >= 60) {

            System.out.println("You are a senior citizen.");

        } else {

            System.out.println("You are not a senior citizen.");

        }

    }

}

Q10.

import java.util.Scanner;

public class Vinayak {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter an integer: ");

        int number = scanner.nextInt();

        int count = 0;

        int temp = Math.abs(number);

        if (temp == 0) {

            count = 1;

        } else {

            while (temp > 0) {

                temp /= 10;

                count++;

            }

        }

        System.out.println("The number of digits in " + number + " is: " + count);

    }

}