// Write a program that prints the numbers from 1 to 100. For multiples of 3, print "Fizz"; for multiples of 5, print "Buzz"; and for numbers that are multiples of both 3 and 5, print "FizzBuzz".

public class FizzBuzz {

public static void main (String[] args) {

for (int i = 1; i <= 100; i++) {

if (i % 3 == 0 && i % 5 == 0) {

System.out.println ("FizzBuzz");

}

else if (i % 3 == 0) {

System.out.println ("Fizz");

}

else if (i % 5 == 0) {

System.out.println ("Buzz");

}

else {

System.out.println (i);

}

}

}

}

// Write a program to generate the Fibonacci sequence up to 100.

public class Fibonacci {

public static void main(String[] args) {

int prevNum= 0;

int currentNum = 1;

System.out.print(prevNum + ".");

while (currentNum <= 100) {

System.out.print(currentNum + ".");

int nextNum = prevNum + currentNum;

prevNum = currentNum;

currentNum = nextNum;

}

}

}

// Write a program that takes an integer as input and returns true if the input is a power of two. Examples: 8=> returns true 6=> returns false

import java.util.Scanner;

public class PowerOfTwo {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

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

int number = scanner.nextInt();

boolean isPowerOfTwo = checkPowerOfTwo(number);

System.out.println("Is the number a power of two? " + Power Of Two);

scanner.close();

}

public static boolean checkPowerOfTwo(int number) {

return number > 0 && (number & (number - 1)) == 0;

}

}

4) //Write a program that accepts a string as input, capitalizes the first letter of each word in the string, and then returns the result string.

import java.util.Capital;

public class CapitalizeFirstLetter {

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

System.out.println("Enter a string: ");

String input = scanner.nextLine();

String capitalizedString = capitalizeFirstLetter(input);

System.out.println("Capitalized string: " + capitalizedString);

scanner.close();

}

public static String capitalizeFirstLetter(String str) {

if (str == null || str.isEmpty()) {

return str;

}

StringBuilder result = new StringBuilder(str.length());

boolean capitalizeNext = true;

for (char c : str.toCharArray()) {

if (Character.isWhitespace(c)) {

capitalizeNext = true;

} else if (capitalizeNext) {

c = Character.toUpperCase(c);

capitalizeNext = false;

}

return result.toString();

}

}

5) //Write a program that takes an integer as input and returns an integer with reversed digit ordering.

import java.util.Scanner;

public class ReverseInteger {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

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

int number = scanner.nextInt();

int reversedNumber = reverseInteger(number);

System.out.println("Reversed integer: " + reversedNumber);

scanner.close();

}

public static int reverseInteger(int num) {

int reversed = 0;

while (num != 0) {

int digit = num % 10;

reversed = reversed \* 10 + digit;

num /= 10;

}

return reversed;

}

}

6) //Write a program that counts the number of vowels in a sentence

import java.util.Scanner;

public class VowelCounter {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

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

String sentence = scanner.nextLine().toLowerCase();

int vowelCount = 0;

for (char ch : sentence.toCharArray()) {

if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {

vowelCount++;

}

}

System.out.println("The sentence contains " + vowelCount + " vowels.");

scanner.close();

}

}