Exercise – JAVA Methods

Write a method that computes the sum of the digits in an integer. Use the following method header: public static int sumDigits(long n)
For example, sumDigits(234) returns 9 (2 + 3 + 4).

Write a method with the following header to display an integer in reverse order:
public static void reverse(int number)
For example, **reverse(3456)** displays **6543**. Write a test program that prompts the user to enter an integer and displays its reversal.

Write the methods with the following headers
// Return the reversal of an integer, i.e., reverse(456) returns 654
public static int reverse(int number)
// Return true if number is a palindrome
public static boolean isPalindrome(int number)
Use the reverse method to implement **isPalindrome**. A number is a palindrome if its reversal is the same as itself. Write a test program that prompts the user to enter an integer and reports whether the integer is a palindrome

Write a method with the following header to display three numbers in increasing order:
public static void displaySortedNumbers(double num1, double num2, double num3)
Write a test program that prompts the user to enter three numbers and invokes the method to display them in increasing order.

Write a method that returns the number of days in a year using the following header:
public static int numberOfDaysInAYear(int year)
Write a test program that displays the number of days in year from 2000 to 2020.

Write a method that counts the number of letters in a string using the following header:
public static int countLetters(String s)
Write a test program that prompts the user to enter a string and displays the number of letters in the string.

Write a function **capitalize(lower_case_word)** that takes the lower case word and returns the word with the first letter capitalized. Eg., System.out.println(capitalize("word")) should print the word **Word**.
Then, given a line of lowercase ASCII words (text separated by a single space), print it with the first letter of each word capitalized using the your own function capitalize().

Write a method that displays an n-by-n matrix using the following header:
public static void printMatrix(int n)
Each element is 0 or 1, which is generated randomly. Write a test program that prompts the user to enter n and displays an n-by-n matrix. Here is a sample run:
Enter n: 3
0 1 0
0 0 0
1 1 1

Write a Java method to count all vowels in a string. Here is sample run
Enter a string: Welcome to Java

Number of Vowels in the string: 6