CSC103 LAB MID EXAM

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Logo, company name

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# Question 1:

Write a function that accepts a String argument and returns the number of vowels in that String.

import java.util.Scanner;

public class q1 {

public static void vowels() {

Scanner input = new Scanner(System.in);

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

String word = input.next();

int count = 0;

if (word.contains("a")) {

count++;

}

if (word.contains("e")) {

count++;

}

if (word.contains("i")) {

count++;

}

if (word.contains("o")) {

count++;

}

if (word.contains("u")) {

count++;

}

System.out.println("The number of vowels in the string are: " + count);

input.close();

}

public static void main(String[] args) {

vowels();

}

}

# Question 2:

Write a function that takes an integer as argument and return true if the number is perfect number.

import java.util.Scanner;

public class q2 {

public static void perfect() {

Scanner input = new Scanner(System.in);

System.out.print("Enter the integer you want to check: ");

int num = input.nextInt();

int sum = 0;

for (int i = 1; i <= num / 2; i++) {

if (num % i == 0) {

sum = sum + i;

}

}

if (num == sum) {

System.out.println("The number is a perfect number");

} else {

System.out.println("the number is not a perfect number");

}

input.close();

}

public static void main(String[] args) {

perfect();

}

}

# Question 3:

Write a function that takes the Number N as argument and calculates the following sum.

1^1 + 2^2 + 3^3 + 4^4 + N^N

import java.util.Scanner;

public class q3 {

public static void sequece() {

Scanner input = new Scanner(System.in);

System.out.print("Enter the number N : ");

double num = input.nextInt();

double equation = 0;

double sum = 0;

if (num < 21 && num > 1) {

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

equation = Math.pow(i, i);

sum += equation;

}

System.out.println("The equation will become : " + sum);

} else {

System.out.println("The input number should be greater than 1 and less than 21");

}

input.close();

}

public static void main(String[] args) {

sequece();

}

}