Assignment -2

Write a function in Dart that generates random password.

import 'dart:math';

String generateRandomPassword({int length = 12}) {

const String upperCaseLetters = 'ABCDEFGHIJKLMNOPQRSTUVWXYZ';

const String lowerCaseLetters = 'abcdefghijklmnopqrstuvwxyz';

const String digits = '0123456789';

const String specialChars = '@#\$%^&\*()-\_=+[]{}|;:,.<>?';

final String allChars = upperCaseLetters + lowerCaseLetters + digits + specialChars;

final Random random = Random.secure();

// Ensure password contains at least one character from each category

List<String> passwordChars = [

upperCaseLetters[random.nextInt(upperCaseLetters.length)],

lowerCaseLetters[random.nextInt(lowerCaseLetters.length)],

digits[random.nextInt(digits.length)],

specialChars[random.nextInt(specialChars.length)],

];

// Fill remaining length with random chars from allChars

for (int i = passwordChars.length; i < length; i++) {

passwordChars.add(allChars[random.nextInt(allChars.length)]);

}

// Shuffle to avoid predictable patterns

passwordChars.shuffle(random);

return passwordChars.join();

}

void main() {

String password = generateRandomPassword(length: 16);

print('Generated password: $password');

}

Output:

Generated password: JjuWnX]|^.m7nnd9

Problem 2

Problem Statement:

You are given a list of integers. Write a Dart function that takes this list and returns the sum of all even numbers in the list. Implement this function using an anonymous function.

Input:

A list of integers, numbers, where 1 <= numbers.length <= 1000.

Each element of the list, num, where 1 <= num <= 10000.

Output:

An integer representing the sum of all even numbers in the input list.

int sumEvenNumbers(List<int> numbers) {

return numbers

.where((num) => num % 2 == 0) // Filter even numbers using anonymous function

.fold(0, (sum, num) => sum + num); // Sum them using anonymous function

}

void main() {

List<int> numbers = [1, 2, 3, 4, 5, 6];

print(sumEvenNumbers(numbers)); // Output: 12 (2 + 4 + 6)

}

Output:12

Problem 3:

3. Define a Dart class named "Book" that has three attributes: "name," "author," and "price." Additionally, implement a method named "display" within the class to print the values of these three attributes.

class Book {

String name;

String author;

double price;

Book(this.name, this.author, this.price);

void display() {

print('Book Name: $name');

print('Author: $author');

print('Price: \$${price.toStringAsFixed(2)}');

}

}

void main() {

Book myBook = Book('1984', 'George Orwell', 15.99);

myBook.display();

}

Output:

Book Name: 1984

Author: George Orwell

Price: $15.99