***Java code:***

import java.util.ArrayList;

import java.util.Scanner;

public class Main {

// Method to get personal information

static String[] getPersonalInfo() {

System.out.println("\nPersonal Information Form:");

Scanner scanner = new Scanner(System.in);

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

String name = scanner.nextLine();

System.out.print("Enter your age group (e.g., 15-20, 21-30, etc.): ");

String age = scanner.nextLine();

System.out.print("Enter your monthly income ($): ");

float income = scanner.nextFloat();

// Validate the input

if (name.trim().equals("")) {

System.out.println("Error: Please enter your name.");

return null;

}

if (income <= 0) {

System.out.println("Error: Income must be a positive number.");

return null;

}

String[] personalInfo = {name, age, String.valueOf(income)};

return personalInfo;

}

// Method to ask questions and calculate expenses

static ArrayList<Integer> askQuestions() {

ArrayList<Integer> answers = new ArrayList<>(); // for all things

ArrayList<Integer> categoryExpenses = new ArrayList<>(); // for each category

Scanner scanner = new Scanner(System.in);

// Ask questions and collect answers for each category

for (int i = 0; i < 9; i++) {

System.out.print((i + 1) + ". ");

switch (i) {

case 0:

System.out.print("Food: ");

categoryExpenses.add(scanner.nextInt());

break;

case 1:

System.out.print("Entertainment: ");

categoryExpenses.add(scanner.nextInt());

break;

case 2:

System.out.print("Clothes: ");

categoryExpenses.add(scanner.nextInt());

break;

case 3:

System.out.print("Health: ");

categoryExpenses.add(scanner.nextInt());

break;

case 4:

System.out.print("Education: ");

categoryExpenses.add(scanner.nextInt());

break;

case 5:

System.out.print("Online Shopping: ");

categoryExpenses.add(scanner.nextInt());

break;

case 6:

System.out.print("Rent: ");

categoryExpenses.add(scanner.nextInt());

break;

case 7:

System.out.print("Electricity: ");

categoryExpenses.add(scanner.nextInt());

break;

case 8:

System.out.print("Transportation: ");

categoryExpenses.add(scanner.nextInt());

break;

}

}

// Calculate the daily total

int dailyTotal = categoryExpenses.stream().mapToInt(Integer::intValue).sum();

// Return answers and daily total

answers.addAll(categoryExpenses);

answers.add(dailyTotal);

return answers;

}

// Method to calculate weekly expenses

static ArrayList<Integer> weeklyExpenses() {

int totalExpenses = 0; // Initialize total expenses

// Initialize total expenses for each category

int totalFoodExpenses = 0;

int totalEntertainmentExpenses = 0;

int totalClothesExpenses = 0;

int totalHealthExpenses = 0;

int totalEducationExpenses = 0;

int totalOnlineShoppingExpenses = 0;

int totalRentExpenses = 0;

int totalElectricityExpenses = 0;

int totalTransportationExpenses = 0;

// Loop over 7 days

for (int i = 0; i < 7; i++) {

System.out.println("\nDay " + (i + 1) + ":");

ArrayList<Integer> answers = askQuestions();

// Extract daily total and category totals

int dailyTotal = answers.remove(answers.size() - 1);

totalExpenses += dailyTotal;

totalFoodExpenses += answers.get(0);

totalEntertainmentExpenses += answers.get(1);

totalClothesExpenses += answers.get(2);

totalHealthExpenses += answers.get(3);

totalEducationExpenses += answers.get(4);

totalOnlineShoppingExpenses += answers.get(5);

totalRentExpenses += answers.get(6);

totalElectricityExpenses += answers.get(7);

totalTransportationExpenses += answers.get(8);

// Print daily total

System.out.println("Daily Total Expenses for Day" + (i + 1) + ": " + dailyTotal);

}

// Return weekly totals

ArrayList<Integer> result = new ArrayList<>();

result.add(totalExpenses);

result.add(totalFoodExpenses);

result.add(totalEntertainmentExpenses);

result.add(totalClothesExpenses);

result.add(totalHealthExpenses);

result.add(totalEducationExpenses);

result.add(totalOnlineShoppingExpenses);

result.add(totalRentExpenses);

result.add(totalElectricityExpenses);

result.add(totalTransportationExpenses);

return result;

}

// Method to calculate monthly expenses

static ArrayList<Integer> monthlyExpenses() {

int totalExpenses = 0; // Initialize total expenses

// Initialize total expenses for each category

int totalFoodExpenses = 0;

int totalEntertainmentExpenses = 0;

int totalClothesExpenses = 0;

int totalHealthExpenses = 0;

int totalEducationExpenses = 0;

int totalOnlineShoppingExpenses = 0;

int totalRentExpenses = 0;

int totalElectricityExpenses = 0;

int totalTransportationExpenses = 0;

// Loop over 4 weeks

for (int i = 0; i < 4; i++) {

System.out.println("\nWeek " + (i + 1) + ":");

ArrayList<Integer> answers = askQuestions();

// Extract weekly total and category totals

int weeklyTotal = answers.remove(answers.size() - 1);

totalExpenses += weeklyTotal;

totalFoodExpenses += answers.get(0);

totalEntertainmentExpenses += answers.get(1);

totalClothesExpenses += answers.get(2);

totalHealthExpenses += answers.get(3);

totalEducationExpenses += answers.get(4);

totalOnlineShoppingExpenses += answers.get(5);

totalRentExpenses += answers.get(6);

totalElectricityExpenses += answers.get(7);

totalTransportationExpenses += answers.get(8);

// Print weekly total

System.out.println("Weekly Total Expenses for Week" + (i + 1) + " : " + weeklyTotal);

}

// Return monthly totals

ArrayList<Integer> result = new ArrayList<>();

result.add(totalExpenses);

result.add(totalFoodExpenses);

result.add(totalEntertainmentExpenses);

result.add(totalClothesExpenses);

result.add(totalHealthExpenses);

result.add(totalEducationExpenses);

result.add(totalOnlineShoppingExpenses);

result.add(totalRentExpenses);

result.add(totalElectricityExpenses);

result.add(totalTransportationExpenses);

return result;

}

// Method to check budget status and saving progress

static void budgetStatus(int sumNeeded, int sumDesired, float certifiedNeed, float certifiedDesired, float income, int total) {

if (sumNeeded > certifiedNeed && sumDesired > certifiedDesired) {

System.out.println("\nYou have exceeded your budget!");

} else if (sumNeeded > certifiedNeed && sumDesired < certifiedDesired) {

System.out.println("\nYou have exceeded your certified need budget!");

} else if (sumNeeded < certifiedNeed && sumDesired > certifiedDesired) {

System.out.println("\nYou have exceeded your certified desired budget!");

} else if (sumNeeded == certifiedNeed && sumDesired == certifiedDesired) {

System.out.println("\nYou have spent exactly your budget!");

} else {

System.out.println("\nYou are within your budget!");

}

if (0.2 \* income == income - total) {

System.out.println("Congratulations, 20% of your income has been saved");

} else {

System.out.println("I think you should focus more on saving");

}

}

public static void main(String[] args) {

System.out.println("\n Welcome to the Expense Tracker!\n Our program is a weekly expense tracker designed to help you manage your finances effectively. \n Before you start tracking your expenses, we'll ask you for some personal information.\n Based on this information, the expense tracker will prompt you daily to enter the amount you spent for each expense category. \n Additionally, it will provide personalized restrictions and tips to help you stay within your budget and achieve your financial goals.\n Are you excited to get started? Let's begin!\n");

String[] personalInfo = getPersonalInfo();

if (personalInfo != null) {

Scanner scanner = new Scanner(System.in);

System.out.println("\nChoose one of these [1] Track weekly expenses [2] Track monthly expenses");

String choice = scanner.nextLine();

if (choice.equals("1")) {

System.out.println("\nWelcome to your weekly expenses tracker!");

System.out.println("Each day you must write your expenses to provide an analysis of your expenses based on the answer (just write number in SAR)");

ArrayList<Integer> result = weeklyExpenses();

int total = result.get(0);

int totalFood = result.get(1);

int totalEntertainment = result.get(2);

int totalClothes = result.get(3);

int totalHealth = result.get(4);

int totalEducation = result.get(5);

int totalOnlineShopping = result.get(6);

int totalRent = result.get(7);

int totalElectricity = result.get(8);

int totalTransportation = result.get(9);

System.out.println("\nYour total expenses for this week: " + total);

System.out.println("\nYour total expenses for each category in this week:");

System.out.println("Food: " + totalFood);

System.out.println("Entertainment: " + totalEntertainment);

System.out.println("Clothes: " + totalClothes);

System.out.println("Health: " + totalHealth);

System.out.println("Education: " + totalEducation);

System.out.println("Online Shopping: " + totalOnlineShopping);

System.out.println("Rent: " + totalRent);

System.out.println("Electricity: " + totalElectricity);

System.out.println("Transportation: " + totalTransportation);

budgetStatus(totalFood + totalClothes + totalHealth + totalEducation + totalRent + totalElectricity + totalTransportation,

totalEntertainment + totalOnlineShopping,

0.50f \* Float.parseFloat(personalInfo[2]), 0.30f \* Float.parseFloat(personalInfo[2]), Float.parseFloat(personalInfo[2]), total);

} else if (choice.equals("2")) {

System.out.println("\nWelcome to your monthly expenses tracker!");

System.out.println("Each week you must write your expenses to provide an analysis of your expenses based on the answer (just write number in SAR)");

ArrayList<Integer> result = monthlyExpenses();

int total = result.get(0);

int totalFood = result.get(1);

int totalEntertainment = result.get(2);

int totalClothes = result.get(3);

int totalHealth = result.get(4);

int totalEducation = result.get(5);

int totalOnlineShopping = result.get(6);

int totalRent = result.get(7);

int totalElectricity = result.get(8);

int totalTransportation = result.get(9);

System.out.println("\nYour total expenses for this month: " + total);

System.out.println("\nYour total expenses for each category in this month:");

System.out.println("Food: " + totalFood);

System.out.println("Entertainment: " + totalEntertainment);

System.out.println("Clothes: " + totalClothes);

System.out.println("Health: " + totalHealth);

System.out.println("Education: " + totalEducation);

System.out.println("Online Shopping: " + totalOnlineShopping);

System.out.println("Rent: " + totalRent);

System.out.println("Electricity: " + totalElectricity);

System.out.println("Transportation: " + totalTransportation);

budgetStatus(totalFood + totalClothes + totalHealth + totalEducation + totalRent + totalElectricity + totalTransportation,

totalEntertainment + totalOnlineShopping,

0.50f \* Float.parseFloat(personalInfo[2]), 0.30f \* Float.parseFloat(personalInfo[2]), Float.parseFloat(personalInfo[2]), total);

}

}

}

}