**QUESTION 1**

/\*\* Author : Muhammad Harith Bin Zainudin

\* Matric : 192171

\* Date : 22 Feb 2018

\* Course Code : SSK3101

\* Course Name : Computer Programming II

\* Semester : 2

\* Session : 2017/2018

\* Lab : 1

\*/

**public** **class** Household{

**public** **int** occupant, annualIncome;

//constructor that requires no arguments and set occupant and income

**public** Household(){

occupant = 1;

annualIncome = 0;

}

//constructor that have 1 argument and assign value to occupant

**public** Household(**int** occupant){

**this**.occupant = occupant;

}

//constructor that have 2 argument and assign value to occupant and income

**public** Household(**int** occupant, **int** annualIncome){

**this**.occupant = occupant;

**this**.annualIncome = annualIncome;

}

//method to set occupant

**void** setOccupant(**int** occupant){

**this**.occupant = occupant;

}

//method to set annual income

**void** setIncome(**int** annualIncome){

**this**.annualIncome = annualIncome;

}

//method to getOccupant and return occupant

**int** getOccupant() {

**return** occupant;

}

//method to getIncome and return annual income

**int** getIncome() {

**return** annualIncome;

}

}//end of public class Household

**----------------------------------------------------------------------------------**

**class** TestHousehold {

**public** **static** **void** main(String[] args) {

//create object for the first constructor and print to ensure that constructor work properly

Household h1 = **new** Household();

System.***out***.println("Occupant: " + h1.getOccupant());

System.***out***.println("Income: "+ h1.getIncome());

System.***out***.println();

//create object for the second constructor and print to ensure that constructor work properly

Household h2 = **new** Household(5);

System.***out***.println("Occupant: " + h2.getOccupant());

System.***out***.println("Income: "+ h2.getIncome());

System.***out***.println();

//create object for the third constructor and print to ensure that constructor work properly

Household h3 = **new** Household(10, 5000);

System.***out***.println("Occupant: " + h3.getOccupant());

System.***out***.println("Income: "+ h3.getIncome());

System.***out***.println();

//To check whether the set is working properly

h3.setIncome(5999);

h3.setOccupant(50);

System.***out***.println("New Income: " + h3.getIncome());

System.***out***.println("New Occupant: " + h3.getOccupant());

}//end of main

}//end of Class TestHousehold

**QUESTION 2**

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**package** question2;

**public** **class** Student {

//data fields for student attributes

**int** matric;

String name, department, classification;

//constructor that have argument name, department ,matric and classification and assigned to the object

**public** Student(**int** matric, String name, String department, String classification) {

**this**.matric = matric;

**this**.name = name;

**this**.department = department;

**this**.classification = classification;

classification = "";

}

//constructor that have no argument and assign empty strings to name, department, classification and 0 to matric

**public** Student() {

name = "";

department = "";

classification = "";

matric = 0;

}

//method for set name

**void** setName(String name) {

**this**.name = name;

}

//method to set department

**void** setDepartment(String department) {

**this**.department = department;

}

//method to set classification

**void** setClassification(String Classification) {

**this**.classification = classification;

}

//method to set matric

**void** setMatric(**int** matric) {

**this**.matric = matric;

}

//method to get name and return name

String getName() {

**return** name;

}

//method to get department and return department

String getDepartment() {

**return** department;

}

//method to get classification and return classification

String getClassification() {

**return** classification;

}

//method to get matric and return matric

**int** getMatric() {

**return** matric;

}

}//end of public class student

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**package** question2;

**public** **class** TestStudent {

**public** **static** **void** main(String[] args) {

Student[] stdArray = **new** Student[4];

Student s1= **new** Student(1198100, "Ghazali Ali", "Computer Science", "Freshman");

stdArray[0] = s1;

Student s2= **new** Student(1057840, "Abdul Rahman", "Multimedia", "Junior");

stdArray[1] = s2;

Student s3= **new** Student(1001198, "Abdul Majid", "Network", "Senior");

stdArray[2] = s3;

Student s4= **new** Student(1002063, "Zainab", "Software Engineering", "Sophomore");

stdArray[3] = s4;

}//end of main method

}//end of public class TestStudent

**QUESTION 3**

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\*/

**package** question3;

**import** java.util.Scanner;

**public** **class** CaloryCalculator {

**public** String foodItem;

**public** **double** totalCalories, fatGram;

//constructor that have no arguments and set the attributes to null and 0

**public** CaloryCalculator() {

foodItem = **null**;

totalCalories = 0;

fatGram = 0;

}

//constructor that have all the arguments

**public** CaloryCalculator(String foodItem, **double** totalCalories, **double** fatGram) {

**this**.foodItem = foodItem;

**this**.totalCalories = totalCalories;

**this**.fatGram = fatGram;

}

//method to get food item and return food item

**public** String getFoodItem() {

**return** foodItem;

}

//method to set food item

**public** **void** setFoodItem(String foodItem) {

**this**.foodItem = foodItem;

}

//method to get total calories and return total calories

**public** **double** getTotalCalories() {

**return** totalCalories;

}

//method to set total calories

**public** **void** setTotalCalories(**double** totalCalories) {

**this**.totalCalories = totalCalories;

}

//method to get fat and return fat

**public** **double** getFatGram() {

**return** fatGram;

}

//method to set fat

**public** **void** setFat(**double** fatGram) {

**this**.fatGram = fatGram;

}

//method to calculate the percentage of fat and also print the percentage of fat

**public** **void** calculate() {

**double** fat = fatGram\*9;

**double** percentageFat = (fat/totalCalories)/100;

System.***out***.println("The percentage of fat in the food is" + percentageFat);

**if** (percentageFat < 30)

System.***out***.println("The food is low fat");

}

}//end of public class CaloryCalculator

----------------------------------------------------------

**package** question3;

**import** java.util.Scanner;

**public** **class** TestCaloryCalculator {

**public** **static** **void** main(String[] args) {

Scanner scan = **new** Scanner(System.***in***);

/\*\*User have to enter the name of the food item, total calories, and fat in gram. if the fat is more than total calories

\* user have to enter again the fat in gram until the fat in gram is lower than the total calories. Then, the system will

\* show up the percentage of the fat

\*/

CaloryCalculator food1 = **new** CaloryCalculator();

System.***out***.println("Enter the name of the food item: ");

food1.foodItem = scan.nextLine();

System.***out***.println("Enter the total calories of the food: ");

food1.totalCalories = scan.nextDouble();

System.***out***.println("Enter the number of fat(gram): ");

food1.fatGram = scan.nextDouble();

**while** (food1.fatGram > food1.totalCalories) {

System.***out***.println("The input is invalid. Please input again");

System.***out***.println("Enter the number of fat(gram): ");

food1.fatGram = scan.nextDouble();

**if** (food1.fatGram < food1.totalCalories)

**break**;

}

food1.calculate();

}//end of main method

}//end of public class TestCaloryCalculator

