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Poject 1

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I worked alone (like batman)

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import java.math.RoundingMode;

import java.text.DecimalFormat;

import java.util.Scanner;

import java.util.Locale;

public class project1 {

private static DecimalFormat df = new DecimalFormat("0.00");

public static String studentName1 = null; //Declaring global variables so they can all be modified thru the methods

public static String studentName2 = null; //Setting everything to null just in case there is junk information stored upon declaration

public static String ID1 = null;

public static String ID2 = null;

public static Double gpa1 = null ;

public static Double gpa2 = null;

public static int creditHours1;

public static int creditHours2;

public static String facultyName = null;

public static String IDFac = null;

public static String rank = null;

public static String department = null;

static void studentInfo1() { //this first method is called to fill out student 1's information

Scanner scnr = new Scanner(System.in);

String choice;

if(studentName1 == null ){ //if student name is empty, carry on as normal

System.out.println("Enter student 1 info: ");

System.out.println(" Name of student: ");

studentName1 = scnr.nextLine();

System.out.println(" ID: ");

ID1 = scnr.nextLine();

System.out.println(" Gpa: ");

gpa1 = scnr.nextDouble();

System.out.println(" Credit hours: ");

creditHours1 = scnr.nextInt();

System.out.println("Thanks!");

}

else{ //if student name contains a name, ask if you would like to overwrite their information.

System.out.println("You already have student 1 filled in. Do you want to update their information? ");

System.out.println("yes or no(lowercase please): ");

choice = scnr.nextLine();

if(choice.contains("yes")){ //checks if user entered yes or no, if they chose yes, then the following code will proceed

System.out.println("Enter student 1 info: ");

System.out.println(" Name of student: ");

studentName1 = scnr.nextLine();

System.out.println(" ID: ");

ID1 = scnr.nextLine();

System.out.println(" Gpa: ");

gpa1 = scnr.nextDouble();

System.out.println(" Credit hours: ");

creditHours1 = scnr.nextInt();

System.out.println("Thanks!");

}

else{ //if user chooses to not overwrite the existing info, they will be returned to the main menu.

System.out.println("Thanks!");

}

}

}

static void studentInfo2 () { //this second method fills out student 2's info

Scanner scnr = new Scanner(System.in);

String choice;

if(studentName2 == null ){ //This entire method is just an exact copy of the first, just with student 2's information being filled out

System.out.println("Enter student 2 info: ");

System.out.println(" Name of student: ");

studentName2 = scnr.nextLine();

System.out.println(" ID: ");

ID2 = scnr.nextLine();

System.out.println(" Gpa: ");

gpa2 = scnr.nextDouble();

System.out.println(" Credit hours: ");

creditHours2 = scnr.nextInt();

System.out.println("Thanks!");

}

else{

System.out.println("You already have student 2 filled in. Do you want to update their information? ");

System.out.println("yes or no(lowercase please)");

choice = scnr.nextLine();

if(choice.contains("yes")){

System.out.println("Enter student 2 info: ");

System.out.println(" Name of student: ");

studentName2 = scnr.nextLine();

System.out.println(" ID: ");

ID2 = scnr.nextLine();

System.out.println(" Gpa: ");

gpa2 = scnr.nextDouble();

System.out.println(" Credit hours: ");

creditHours2 = scnr.nextInt();

System.out.println("Thanks!");

}

else{

System.out.println("Thanks!");

}

}

}

static void facultyInfo () { //This method is called to fill out the faculty information

Scanner scnr = new Scanner(System.in);

if(facultyName == null ){ //Checking to see if faculty info has been filed out already, if it is empty, proceed as normal

System.out.println("Enter faculty info: ");

System.out.println(" Name of the faculty: ");

facultyName = scnr.nextLine();

System.out.println(" ID: ");

IDFac = scnr.nextLine();

System.out.println(" Rank: ");

rank = scnr.nextLine();

while(!rank.contains("professor") && !rank.contains("Professor") && !rank.contains("adjunct") && !rank.contains("Adjunct")) {

//This while loop checks the contents of string "rank" to the available options. If it does not match any, it will loop until it does

System.out.println("Sorry entered rank (" + rank + ") is invalid");

System.out.println(" Rank: ");

rank = scnr.nextLine();

}

System.out.println("Department: ");

department = scnr.nextLine();

while(!department.contains("mathematics") && !department.contains("engineering") && !department.contains("arts") && !department.contains("science")) {

//same exact logic as while loop above for rank, except this one is using department.

System.out.println("Sorry entered department (" + department + ") is invalid");

System.out.println(" Department: ");

department = scnr.nextLine();

}

}

else { //if there is already information stored here, then it will go through the following sequence, similar to previous methods

String choice;

System.out.println("You already have faculty information filled in. Do you want to update their information? ");

System.out.println("yes or no(lowercase please)");

choice = scnr.nextLine();

if(choice.contains("yes")){

System.out.println("Enter faculty info: ");

System.out.println(" Name of the faculty: ");

facultyName = scnr.nextLine();

System.out.println(" ID: ");

IDFac = scnr.nextLine();

System.out.println(" Rank: ");

rank = scnr.nextLine();

while(!rank.contains("professor") && !rank.contains("Professor") && !rank.contains("adjunct") && !rank.contains("Adjunct")) {

System.out.println("Sorry entered rank (" + rank + ") is invalid");

System.out.println(" Rank: ");

rank = scnr.nextLine();

}

System.out.println("Department: ");

department = scnr.nextLine();

while(!department.contains("mathematics") && !department.contains("engineering") && !department.contains("arts") && !department.contains("science")) {

System.out.println("Sorry entered department (" + department + ") is invalid");

System.out.println(" Department: ");

department = scnr.nextLine();

}

}

else{

System.out.println("Thanks!");

}

}

}

static void printInvoice() { //prints invoice

Scanner scnr = new Scanner(System.in);

int choice;

double payment;

double creds;

Double tuition = 236.45; //tuition, I decided to make this a variable so it can be changed.

Double discount = 0.00; //this just sets the discount to 0 so if an entered gpa is under 3.85, the discount is already set to 0

System.out.println("Which student? 1 " + studentName1 + " or 2 " + studentName2 + " ? "); //prompts user to choose which student's tuition they would like printed

choice = scnr.nextInt();

if(choice == 1) { //simple if else statement

creds = creditHours1; //sets global variable of creditHours1 to creds variable

payment = tuition \* creds; //the following math calculates the total payment owed

payment = payment + 52;

if(gpa1 >= 3.85){ //this if statement determines whether a 25% discount

discount = payment \* 0.25; //calculates the discount and stores it in a variable

payment = payment - discount; //subtracts the discount from the total

}

System.out.format("double : %.2f", payment); //these two lines of code set the format of the decimal numbers to look like a dollar amount

System.out.format("double : %.2f", discount);

System.out.println("---------------------------------------------------------------------------");

System.out.println(studentName1 + " " + ID1);

System.out.println("Credit Hours " + creditHours1 + " ($236.45/credit hour)");

System.out.println("Fees: 52");

System.out.println("Total payment: $" + String.format("%.2f", payment) + " ($" + String.format("%.2f", discount) + " discount applied)");

System.out.println("---------------------------------------------------------------------------");

}

else if(choice == 2) { //Same exact code as before just for student 2

creds = creditHours2;

payment = tuition \* creds;

payment = payment + 52;

if(gpa2 >= 3.85){

discount = payment \* 0.25;

payment = payment - discount;

}

System.out.format("double : %.2f", payment);

System.out.format("double : %.2f", discount);

System.out.println("---------------------------------------------------------------------------");

System.out.println(studentName2 + " " + ID2);

System.out.println("Credit Hours " + creditHours2 + " ($236.45/credit hour)");

System.out.println("Fees: 52");

System.out.println("Total payment: $" + String.format("%.2f", payment) + " ($" + String.format("%.2f", discount) + " discount applied)");

System.out.println("---------------------------------------------------------------------------");

}

}

static void printFaculty() { //prints the faculty information, nothing fancy going on here

System.out.println("---------------------------------------------------------------------------");

System.out.println("");

System.out.println(facultyName);

System.out.println("");

System.out.println(department + " Department, " + rank);

System.out.println("---------------------------------------------------------------------------");

}

static void choiceMenu() { //this method is the main menu of the program. It serves as the main tree branch that all other methods will return to.

Scanner scnr = new Scanner(System.in); //Simplee series of print statements to show the options for the user

System.out.println("Choose one of the options: ");

System.out.println("1. Enter the information of the faculty ");

System.out.println("2. Enter the information of the two students ");

System.out.println("3. Print the tuition invoice ");

System.out.println("4. Print faculty information ");

System.out.println("5. Exit Program ");

String choice = scnr.nextLine();

if(choice.contains("1")) { //calls faculty info methods

facultyInfo();

}

else if(choice.contains("2")) { //calls student methods

studentInfo1();

studentInfo2();

}

else if (choice.contains("3")) { //calls the print tuition invoice function

printInvoice();

}

else if (choice.contains("4")) { //calls the print faculty method

printFaculty();

}

else if (choice.contains("5")) { //exits the program

System.out.println("Goodbye!");

System.exit(0);

}

else if (!choice.contains("5") & !choice.contains("4") & !choice.contains("3") & !choice.contains("2") & !choice.contains("1")) {

//This particular else if serves as a failsafe for the program to revert to if anything is entered by the user that is not a valid option.

System.out.println("Invalid entry- please try again");

}

while (!choice.contains("5")) { //keeps the menu loop going after each function has gone through it respective steps

choiceMenu();

}

}

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

Scanner scnr = new Scanner(System.in);

choiceMenu(); //Calls the choiceMenu method that will start the program.

}

}