**Java Homework Exercise 6, 10, and 15 Submission**

**Exercise 6 Change:**

package change;

/\*\*

\* Name: Jihal Patel

\* Student Number: 765697

\* Title: Change Exercise 6

\* Course Code: ICS3U0A

\* Date: October 3, 2016

\* Teacher Name: Mr. Veera

\* @author Jihal

\*/

import java.util.Scanner; // Import the Scanner which allows the user to input data

public class Change {

/\*\*

\* @param args the command line arguments

\*/

public static void main(String[] args) {

// TODO code application logic here

int remainder1, remainder2, remainder3, cents, quarters, dimes, nickels, pennies; // Makes variable for the remainders, cents, and the different types of change

Scanner input = new Scanner(System.in); // Open up Scanner which allows the user to input data

System.out.print("Enter the change in cents: "); // Print the data the user needs to enter(next line)

cents = input.nextInt(); // Allows the user to input the amount of cents

quarters = cents/25; // Makes quarters equal to the cents divided by 25 (becuase quarters are worth 25 cents)

remainder1 = cents%25; // Finds the remainder from the cents after the minimal number of quarters is deducted

dimes = remainder1/10; // Makes the minimal number of dimes equal to the remainder after the quarters deduction divided by 10 (becuase dimes are worth 10 cents)

remainder2 = remainder1%10; // Finds the remainder from the cents after the minimal number of quarters and dimes is deducted

nickels = remainder2/5; // Makes the minimal number of nickels equal to the remainder after the quarters and dimes deduction divided by 5 (because nickels are worth 5)

remainder3 = remainder2%5; // Finds the remainder from the cents after the minimal number of quarters, dimes, and nickels have been deducted

pennies = remainder3/1; // The rest of the coins are divided by 1 (unnecesscary) to figure out the number of pennies

System.out.println("The minimum number of coins is: "); // Prints the minimum number of coins so the user understands what will be printed

System.out.println("Quarters: " + quarters); // Prints the minimum number of quarters

System.out.println("Dimes: " + dimes); // Prints the minimum number of dimes

System.out.println("Nickels: " + nickels); // Prints the minimum number of nickels

System.out.println("Pennies: " + pennies); // Prints the minimum number of pennies

}

}

**Exercise 10 Sleep:**

package sleep;

/\*\*

\* Name: Jihal Patel

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\* Title: Sleep Exercise 10

\* Course Code: ICS3U0A

\* Date: October 3, 2016

\* Teacher Name: Mr. Veera

\* @author Jihal

\*/

import java.util.Scanner; // Imports the Scanner which allows user input

public class Sleep {

/\*\*

\* @param args the command line arguments

\*/

public static void main(String[] args) {

// TODO code application logic here

Scanner input = new Scanner(System.in); // Opens the Scanner which allows user input

int year, month, day, year1, month1, day1, daysAlive, hoursSlept; // Creates the variables needed for the program

System.out.println("Enter your birthdate: "); // Tells user to enter birthdate in output

System.out.print("Year: "); // Tells user to enter birth year in output

year = input.nextInt(); // Allows user to enter birth year in output

System.out.print("Month: "); // Tells user to enter birth month in output

month = input.nextInt(); // Allows user to enter birth month in output

System.out.print("Day: "); // Tells user to enter birth day in output

day = input.nextInt(); // Allows user to enter birth day in output

System.out.println("Enter today's date: "); // Tells user to enter current date in output

System.out.print("Year: "); // Tells user to enter current year in output

year1 = input.nextInt(); // Allows user to enter current year in output

System.out.print("Month: "); // Tells user to enter current month in output

month1 = input.nextInt(); // Allows user to enter current month in output

System.out.print("Day: "); // Tells user to enter current day in output

day1 = input.nextInt(); // Allows user to enter current day in output

daysAlive = (year1 - year) \*365 + (month1-month) \* 30 + (day1-day); // Finds out the number of days alive from birthdate

System.out.println("You have been alive for " + daysAlive + " days."); // Prints the number of days alive from birthdate

hoursSlept = daysAlive \* 8; // Finds out the number of hours slept on the consideration of 8 hours of sleep per day

System.out.println("You have slept for " +hoursSlept + " hours." ); // Prints the number of hours slept

}

}

**Exercise 15 Simple Interest Part A:**

package simpleinterest;

/\*\*

\* Name: Jihal Patel

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\* Title: Simple Interest Part A Excerise 15

\* Course Code: ICS3U0A

\* Date: October 3, 2016

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\*/

import java.util.Scanner; // Imports Scanner which allows user input

public class SimpleInterest {

/\*\*

\* @param args the command line arguments

\*/

public static void main(String[] args) {

// TODO code application logic here

Scanner input = new Scanner(System.in); // Opens Scanner which allows user input

double amount, principal, years, interestRate; // Makes variables needed for the program

System.out.print("Enter the principal: "); // Tells user to type principal amount in output

principal = input.nextDouble(); // Allows user to type principal amount in output

System.out.print("Enter the number of years: ");// Tells user to type the number of years in output

years = input.nextDouble(); // Allows user to type the number of years in output

System.out.print("Enter the interest rate: "); // Tells user to type interest rate in output

interestRate = input.nextDouble(); // Allows user to type interest rate in output

amount = principal \* (1 + years \* interestRate); // Makes amount equal to the formula given in excerise

System.out.format("The value after the term is: $ %.2f\n" , amount); // Prints the total value after the term

}

}

**Exercise 15 Simple Interest Part B:**

package simpleinterestpartb;

import java.util.Scanner; // Imports Scanner which allows user input

/\*\*

\* Name: Jihal Patel

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\* Title: Simple Interest Part B Exercise 15

\* Course Code: ICS3U0A

\* Date: October 3, 2016

\* Teacher Name: Mr. Veera

\* @author Jihal

\*/

public class SimpleInterestPartB {

/\*\*

\* @param args the command line arguments

\*/

public static void main(String[] args) {

// TODO code application logic here

Scanner input = new Scanner(System.in); // Opens Scanner which allows user input

double amount, principal, years, interestRate; // Makes variables needed for the program

System.out.print("Enter the amount desired: "); // Tells user to type the amount desired in output

amount = input.nextDouble(); // Allows user to type the amount desired in output

System.out.print("Enter the number of years: "); // Tells user to type the number of years in output

years = input.nextDouble(); // Allows user to type number of years in output

System.out.print("Enter the interest rate: "); // Allows user to type interest rate in output

interestRate = input.nextDouble(); // Tells user to type interest rate in output

principal = amount / (1 + years \* interestRate); // Makes principal equal to the formula needed to find the principal

System.out.format("The principal that will be needed to invested is: $ %.2f\n" , principal); /\* Prints the pricinpal that

will be needed to get the amount desired

\*/

}

}