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CPS 150 02 – Algorithms and Programming 1

Long Week Project 5

12/13/2020

**Program Algorithm**

1. Start the program
2. Import the scanner
3. Declare a string variable of length 5 that stores the names given in the problem
4. Use a for loop to print the each of the customer names in the array (could also use an enhanced for loop or Arrays.toString to do this step)
5. Print a new line after the customer names
6. Declare a double array variable of length 5 to store the balance of each customer
7. Use a for loop to prompt the user to enter balances for each individual customer
8. Within that for loop, add each balance entered by the user into the customer balance array
9. Use another for loop to print each customer and their entered balance
10. Declare a double variable for the percent of each balance that will be calculated (25% in this case, so it would equal 0.25)
11. Use another for loop to print each customer and 25% of their balance
12. End the program

**Program Running Screenshot**

**Text

Description automatically generated**

**Program Code**

/\*

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Lab\_Project\_5: number number number number number (all put into double array) ; number number number number number

program takes in five total doubles for the balance of each of five individual customers

and then calculates and prints out 25% of each customer's original balance

Customer names given in problem: Cathy, Ben, Jorge, Wanda, Freddie

ex1: user inputs 100.00, 234.56, 2.49, 32.32, 400.00 - program outputs 25.0, 58.64, 0.6225, 8.08, 100.0

ex2: user inputs 0, 1.69, 22, 32.6, 12000 - program outputs 0.0, 0.4225, 5.5, 8.15, 3000.0

ex3: user inputs -15, -22, 5.67, -39, 47.223 - program outputs -3.75, -5.5, 1.4175, -9.75, 11.80575

ex5: user inputs x, y, c, dog, television - program outputs error

\*/

import java.util.Scanner;

public class Lab\_Project\_5 {

public static void main(String [] args){

//import scanner

Scanner input = new Scanner(System.in);

//declare a string array variable with the 5 given names from the problem

String[] customerName = {"Cathy", "Ben", "Jorge", "Wanda", "Freddie"};

//use a for loop to print the array of customer names - could also use Arrays.toString or an enhanced for loop

for(int i = 0; i < customerName.length; i++){

System.out.print(customerName[i] + " ");

}

//print a new line after the customer names

System.out.println();

//declare a double array variable of length 5 to store the balance for each customer

double[] customerBalance = new double[5];

//use a for loop to prompt the user to enter balances for each name and add the balance to the customer balance array

for(int j = 0; j < customerBalance.length; j++){

System.out.print("Please enter " + customerName[j] + "'s balance: ");

customerBalance[j] = input.nextDouble();

}

//use a for loop to print each customer and their balance

for(int k = 0; k < customerName.length; k++){

System.out.println(customerName[k] + "'s balance: " + customerBalance[k]);

}

//declare a double variable for the percent of each balance that will be calculated

double multiplier = 0.25;

//use a for loop to print each customer and 25% of their balance

for(int x = 0; x < customerName.length; x++){

//declare a double variable for 25% of the balance

double percentOfBalance = customerBalance[x] \* multiplier;

System.out.println(customerName[x] + "'s new balance: " + percentOfBalance);

}

}

}