**Lab 4**

**Variable and Calculation 2**

**Name-Surname**………………………………......**Student No**........................................**Section (LAB)**……………

**Lab instruction**

1. Open VS code or JAVA IDE in your computer.
2. Create a new java class name ComputeChange.java, then write the following code.

1  import java.util.Scanner;

2

3  public class ComputeChange {

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

5   // Create a Scanner

6   Scanner input = new Scanner(System.in);

7

8   // Receive the amount

9   System.out.print(

10   "Enter an amount in double, for example, 11.56: ");

11   double amount = input.nextDouble();

12

13   int remainingAmount = (int)(amount \* 100);

14

15   // Find the number of one dollars

16   int numberOfOneDollars = remainingAmount / 100;

17   remainingAmount = remainingAmount % 100;

18

19   // Find the number of quarters in the remaining amount

20   int numberOfQuarters = remainingAmount / 25;

21   remainingAmount = remainingAmount % 25;

22

23   // Find the number of dimes in the remaining amount

24   int numberOfDimes = remainingAmount / 10;

25   remainingAmount = remainingAmount % 10;

26

27   // Find the number of nickels in the remaining amount

28   int numberOfNickels = remainingAmount / 5;

29   remainingAmount = remainingAmount % 5;

30

31   // Find the number of pennies in the remaining amount

32   int numberOfPennies = remainingAmount;

33

34   // Display results

35   System.out.println("Your amount " + amount + " consists of");

36   System.out.println(" " + numberOfOneDollars + " dollars");

37   System.out.println(" " + numberOfQuarters + " quarters");

38   System.out.println(" " + numberOfDimes + " dimes");

39   System.out.println(" " + numberOfNickels + " nickels");

40   System.out.println(" " + numberOfPennies + " pennies");

41   }

42  }

3. Compile and run the program. Enter example input e.g. 11.56

4. From the ComputeChange.java, to fix possible accuracy when converting a double value to an int value. Enter the input as a integer whose last two digit represent the cents. For example, *the input 1156 represent 11 dollars and 56 cents.*

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*CHECK POINT #1\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

String type variable

import java.util.Scanner;

public class Name {

    public static void main(String[] args) {

       //Declare and assign variable in string type

        String name;

        String nickName = "ball";

        //Read the String by scanner

        Scanner input = new Scanner(System.in);

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

        name = input.next();

        //Print the data in String

        System.out.println("Your name is "+name);

        System.out.println("Your nick name is "+nickName);

    }

}

5. Write the Java program that reads the following information and prints a payroll statement:

Employee,s name(e.g., Smith)

Number of hours worked in a week (e.g., 10)

Hourly pay rate (e.g., 6.75)

Federal Tax withholding rate(percent) (e.g., 20%)

State tax withholding rate(percent)(e.g., 9%)

**Example output**

Employee’s name : Smith

Hours work” 10.0 hour

Pay rate: $6.75

Gross pay : $67.5

Deductions:

Federal withholding (20.0%) : $13.5

State withholding (9.0%) : $6.07

Total Deduction: $19.57

Net pay for Smith: $47.92

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*CHECK POINT #2\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

6. Write a program that reads in inveatment amount, annual interest rate, and number of year.

The program will display the feature investment value using the follow formular:

Hint: use Math.pow(a,b) in the program

For example, amount is 1000, annual interest rate 3.25%, number of year 5, the future investment value is 1173.411

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*CHECK POINT #3\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

--------------------------------------------End of Lab-----------------------------------------------