**JAVA Worksheet-2**

**20pt05**

1)

import java.util.\*;

public class Employee

{

String name;

double salary;

public Employee()

{

this.name = "";

this.salary = 0;

}

public Employee(String n,double s )

{

this.name = n;

this.salary = s;

}

public String getName()

{

return this.name;

}

public double getSalary()

{

return this.salary;

}

public String Print()

{

return ("Employee name is "+this.getName()+" and salary is "+this.getSalary());

}

public static void main(String[] args)

{

Employee E1 = new Employee("Ram",20000);

System.out.println(E1.Print());

}

}

2) import java.util.\*;

public class Student

{

String name;

int quizScore;

int count = 1;

public Student()

{

this.name = "";

this.quizScore = 0;

}

public Student(String n,int q)

{

this.name = n;

this.quizScore = q;

}

public String getName()

{

return this.name;

}

public void addQuiz(int score)

{

this.quizScore += score;

count++;

}

public int getTotalScore()

{

return this.quizScore;

}

public float getAverageScore()

{

return (this.quizScore)/count;

}

public static void main(String[] args)

{

Student S1 = new Student("Conrad",20);

S1.addQuiz(30);

S1.addQuiz(5);

System.out.println("Total score: "+S1.getTotalScore());

System.out.println("Average score = "+S1.getAverageScore());

System.out.println("No of quiz games = "+S1.count);

}

}

3)

public class Car

{

float fuelEfficiency;

float fuelLevel;

public Car(float fe)

{

this.fuelEfficiency = fe;

this.fuelLevel = 0;

}

public void tank(float flevel)

{

this.fuelLevel+= flevel;

}

public void drive(float miles)

{

float consumed = miles/this.fuelEfficiency;

this.fuelLevel -= consumed;

}

public float getFuelLevel()

{

return this.fuelLevel;

}

public static void main(String[] args)

{

Car mycar = new Car(29); // 29 miles per gallon

mycar.tank(20); // tank 20 gallons

mycar.drive(100); // drive 100 miles

System.out.println(mycar.getFuelLevel());

}

}

4)

import java.util.\*;

public class Account

{

String owner;

double Balance;

long Accno;

private static int numAccounts = 0;

int numOfDeposits = 0;

int numOfWithdrawals = 0;

double totalDepositAmt;

double totalWithdrawalAmt;

public Account(double initBal,String owner,long number)

{

this.Balance = initBal;

this.owner = owner;

this.Accno = number;

numAccounts++;

System.out.println("Account with acc no "+ this.Accno+" created.");

}

public Account(double initBal,String owner)

{

this.Balance = initBal;

this.owner = owner;

long number = (long) Math.floor(Math.random() \* 9\_000\_000\_000L) + 1\_000\_000\_000L;

this.Accno = number;

numAccounts++;

System.out.println("Account with acc no "+ this.Accno+" created.");

}

public Account(String owner)

{

this.Balance = 0;

this.owner = owner;

long number = (long) Math.floor(Math.random() \* 9\_000\_000\_000L) + 1\_000\_000\_000L;

this.Accno = number;

numAccounts++;

System.out.println("Account with acc no "+ this.Accno+" created.");

}

public void Withdraw(double amt)

{

if(this.Balance >= amt)

{

this.Balance -= amt;

System.out.println("Amount successfully withdrawn.");

System.out.println("Current Balance: Rs."+ this.Balance+"\n");

this.numOfWithdrawals++;

this.totalWithdrawalAmt += amt;

}

else

{

System.out.println("Unsufficient balance.\nAmount cannot be withdrawn.\n");

}

}

public double getBalance()

{

return this.Balance;

}

public void Deposit(double amt)

{

this.Balance += amt;

System.out.println("Amount successfully deposited.");

System.out.println("Current Balance: Rs"+ this.Balance+"\n");

this.numOfDeposits++;

this.totalDepositAmt+=amt;

}

public void Close()

{

this.owner = owner + " CLOSED";

this.Balance = 0;

this.numOfDeposits = 0;

this.numOfWithdrawals = 0;

this.totalDepositAmt = 0;

this.totalWithdrawalAmt = 0;

System.out.println("Account closed");

numAccounts--;

}

public String toString()

{

return "\nAccno: " + this.Accno + "\nOwner: "+ this.owner + "\nBalance: "+ this.Balance

+"\nTotal number of deposits: "+this.numOfDeposits+"\nTotal number of withdrawals: "

+this.numOfWithdrawals + "\nTotal deposit amount: " + this.totalDepositAmt +

"\nTotal Withdrawal Amt: " + this.totalWithdrawalAmt + "\n";

}

public static int getNumAccounts()

{

return numAccounts;

}

public static void main(String[] args)

{

Account A1 = new Account(5000,"Name1",1234567891);

Account A2 = new Account(1000,"Name2");

Account A3 = new Account("Name3");

System.out.println(A1);

A1.Deposit(5000);

A1.Withdraw(500);

A1.Deposit(10000);

A1.Withdraw(20000);

System.out.println(A1);

System.out.println("Total number of accounts: " + Account.getNumAccounts()+ "\n");

A1.Close();

System.out.println(A1);

System.out.println("Total number of accounts: " + Account.getNumAccounts()+ "\n");

}

}

5)

|  |  |  |
| --- | --- | --- |
|  | //LongstringLength /\*  \* To change this license header, choose License Headers in Project Properties.  \* To change this template file, choose Tools | Templates  \* and open the template in the editor.  \*/ //package worksheet2; // //import java.util.Arrays; // ///\*\* // \* // \* @author 20pt05 // \*/ //public class LongStringLength { //   // //    static int[] columnMax(String[][] arr) { //        int[] cMax = new int[20]; // //        for (int i = 0; i <arr.length; i++) { //            int colMax = arr[0][i].length(); //            for (int j = 0; j < arr[0].length; j++) { //                if (arr[j][i].length() > colMax) { ////                    System.out.println(arr[i][j]); //                    colMax = arr[j][i].length(); //                } // //            } //            cMax[i] = colMax; ////            System.out.println(colMax); //        } // //        return (cMax); // //    } // //    public static void main(String[] argc) { // //        String[][] a = {{"help", "ok", "city lights"}, //        {"elvisLives", "hello", "punch-out"}, //        {"hurrah", "humptydumpty", "123"}}; //       //        LongStringLength c=new LongStringLength(); ////           System.out.println(Arrays.toString(c.columnMax(a)));   //           for(int i=0;i<a.length;i++){ //               System.out.println(c.columnMax(a)[i]);            }    }  }  6)  public class Triangle {      private double length;     private double width;     private double area;     private String color;     private double a;     private double b;     private double c;      Triangle() {          this.a = 0;         this.b = 0;         this.c = 0;         this.length = 0;         this.width = 0;         this.area = 0;         this.color = "White";      }      Triangle(int x, int y, int z) {         this.a = x;         this.b = y;         this.c = z;     }      Triangle(Triangle temp) {       this.a=temp.a;       this.b=temp.b;       this.c=temp.c;           }      void set\_length() {         this.length = a;      }      void set\_width() {         this.width = b;     }      void set\_colour(String color) {         this.color = color;     }      double find\_area() {         this.area = (double)1 / 2 \* (this.a \* this.b);         return this.area;      }      Boolean isTriangle() {         find\_area();         if (width + length > area) {             return true;         }         return false;     }      Boolean isRight() {         find\_area();          if (isTriangle() && Math.pow(width, 2) + Math.pow(length, 2) == Math.pow(area, 2)) {             return true;         }         return false;     }      Boolean isIsosceles() {         if (isTriangle() && a != b && b != c && a != c) {             return true;         }         return false;      }      Boolean isEquilateral() {         if (isTriangle() && a == b && b == c && a == c) {             return true;         }         return false;     }         Boolean match\_Rect(Triangle t){                 if(this.color==t.color && this.area==t.area){             return true;         }         return false;     }         public static void main(String[] argc){         Triangle tri=new Triangle(3,2,4);         Triangle t2=new Triangle(3,2,4);         t2.set\_colour("Black");         t2.find\_area();         tri.set\_length();         tri.set\_width();         tri.set\_colour("Black");         System.out.println(tri.find\_area());         System.out.println(tri.isIsosceles());         System.out.println(tri.isEquilateral());         System.out.println(tri.isTriangle());         System.out.println(tri.match\_Rect(t2));         System.out.println(t2.find\_area());     } } |  |