Day 1:

**Topics Covered:** data types, operators, if else constructs

**Assignment 1:**

You are assigned to develop a module to calculate the electricity bill based on below conditions: The standard price per unit is Rs. 1.20.

* If number of units are less than 100 then standard price per unit will be applied.
* If it is less than or equal to 300 units then Rs. 2 will be charged for number of units over and above 100 units.
* If it is greater 300 units then Rs. 2 will charged for additional 200 units above 100 units and Rs. 3 will be charged for additional units above 300.

**Topics Covered:** loops and arrays

**Solution:-**

//Author Neeraj Patil - 51 Assignment\_1

**import** java.util.\*;

**public** **class** Assignment\_1 {

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

System.***out***.println("-------|ASSIGNMENT 1|-----------");

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

System.***out***.println("-------|Electricity Bill|-------");

**double** r1 = 1.2;

**double** r2=2.0;

**double** r3=3.0;

**double** total=0;

System.***out***.println("Electricity Price Breakdown : ");

System.***out***.println("Standard Unit Price upto 100 units: " + r1);

System.***out***.println("Standard Unit Price between 100 and 200 units: " + r2);

System.***out***.println("Standard Unit Price above 300 units: " + r3);

System.***out***.print("Enter the units : ");

Scanner myObj = **new** Scanner(System.***in***);

**int** units = myObj.nextInt();

**if** (units < 100) {

total = r1 \* units;

} **else** **if** (units <= 300 && units >= 100) {

**double** t1 = r1 \* 100;

**double** t2 = r2 \* (units - 100);

total = t1 + t2;

} **else** {

**if** (units > 300) {

**double** t1 = r1 \* 100;

**double** t2 = r2 \* 200;

**double** t3 = r3 \* (units - 300);

total = t1 + t2 + t3;

}

}

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

System.***out***.println("Total electricity bill : Rs." + total);

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

}

}

**Assignment 2:**

As a developer, you are assigned to develop a module to generate innings statistics of a batsman. Assume the batsman has played 5 overs (30 balls). Generate random runs between 1 to 6 and calculate the below stats:

1. Total runs scored.
2. Number of 0s, 1s, 2s, 3s, 4s and 6s.
3. Strike Rate (runs per ball).

**Solution:-**

//Author Neeraj Patil - 51 Assignment\_2

**public** **class** Assignment\_2 {

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

System.***out***.println("-------|ASSIGNMENT 2|-----------");

**int** totalRuns = 0;

**int** zeroes = 0;

**int** ones = 0;

**int** twos = 0;

**int** threes = 0;

**int** fours = 0;

**int** sixes = 0;

**float** strikeRate = 0;

**int**[] runsScored = **new** **int**[30];

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

runsScored[i] = (**int**) (Math.*random*() \* (6 - 0 + 1)) + 0;// Generating random numbers

}

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

totalRuns = totalRuns + runsScored[i];

**if** (runsScored[i] == 0) {

zeroes++;

} **else** **if** (runsScored[i] == 1) {

ones++;

} **else** **if** (runsScored[i] == 2) {

twos++;

} **else** **if** (runsScored[i] == 3) {

threes++;

} **else** **if** (runsScored[i] == 4) {

fours++;

} **else** {

**if** (runsScored[i] == 6) {

sixes++;

}

}

}

**float** temp = totalRuns;

strikeRate = (temp / 30) \* 100;

System.***out***.println("-------|Runs Scored|-----------");

System.***out***.println("Runs scored over 5 overs : ");

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

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

}

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

System.***out***.println("1. Total runs : " + totalRuns);

System.***out***.println("2. Number of Os, 1s, 2s, 3s, 4s and 6s.");

System.***out***.println(" 0's : " + zeroes);

System.***out***.println(" 1's : " + ones);

System.***out***.println(" 2's : " + twos);

System.***out***.println(" 3's : " + threes);

System.***out***.println(" 4's : " + fours);

System.***out***.println(" 6's : " + sixes);

System.***out***.println("3. Average Strike Rate (runs per ball): " + strikeRate);

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

}

}

**Assignment 3:**

Extend the assignment 3, which fetch details for last 5 innings and calculate the following:

1. Average score of last 5 matches
2. Total runs
3. Number of 0s, 1s, 2s, 3s, 4s and 6s.
4. Average Strike Rate (runs per ball).

**Topics covered:** Classes, objects, constructors, getter & setters.

**Solution:-**

//Author Neeraj Patil - 51 Assignment\_3

**import** java.util.\*;

**class** Assignment\_3 {

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

System.***out***.println("-------|ASSIGNMENT 3|-----------");

**int** totalRuns = 0;

**int** zeroes = 0;

**int** ones = 0;

**int** twos = 0;

**int** threes = 0;

**int** fours = 0;

**int** sixes = 0;

**float** strikeRate = 0;

**float** avg = 0;

**int**[] runs = **new** **int**[500];

**int** t = 0;

**int** tc = 0;

**int** mb = 0;

**for** (**int** j = 0; j < 5; j++) {

System.***out***.println("Enter the balls played in " + (j + 1) + " inning");

Scanner myObj = **new** Scanner(System.***in***);

mb = myObj.nextInt();

t = t + mb;

**for** (**int** i = 0; i < mb; i++) {

tc++;

runs[tc] = (**int**) (Math.*random*() \* 7) + 0;

}

tc++;

runs[tc] = 9;

}

**for** (**int** i = 0; i < tc - 1; i++) {

**if** (runs[i] != 9) {

totalRuns = totalRuns + runs[i];

**if** (runs[i] == 0) {

zeroes++;

} **else** **if** (runs[i] == 1) {

ones++;

} **else** **if** (runs[i] == 2) {

twos++;

} **else** **if** (runs[i] == 3) {

threes++;

} **else** **if** (runs[i] == 4) {

fours++;

} **else** {

**if** (runs[i] == 6) {

sixes++;

}

}

}

}

**float** temp = totalRuns;

avg = temp / 5;

strikeRate = (temp / t) \* 100;

System.***out***.println("-------|Runs Scored|-----------");

System.***out***.println("Runs scored : ");

**for** (**int** i = 0; i < tc - 1; i++) {

**if** (runs[i] != 9) {

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

}

}

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

System.***out***.println("1. Average score of last 5 matches: " + avg);

System.***out***.println("2. Total runs : " + totalRuns);

System.***out***.println("3. Number of Os, 1s, 2s, 3s, 4s and 6s.");

System.***out***.println(" 0's : " + zeroes);

System.***out***.println(" 1's : " + ones);

System.***out***.println(" 2's : " + twos);

System.***out***.println(" 3's : " + threes);

System.***out***.println(" 4's : " + fours);

System.***out***.println(" 6's : " + sixes);

System.***out***.println("4. Average Strike Rate (runs per ball): " + strikeRate);

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

}

}

**Assignment 5:**

As a developer, you are asked to create a module to store details of a bank account. You are asked to create a class Account with following fields:

* accountNo
* accountBalance
* accountPassword

In addition to above fields, declare a class variable “bankName” to be shared by all objects of the class.

For security reasons, above fields must not be directly accessed outside the class. You need to generate getter and setter methods to let other classes access or modify the object’s details.

**Solution:-**

//Author Neeraj Patil - 51 Assignment\_5

**import** java.util.\*;

**class** Account {

**public** **int** getAccountNo() {

**return** accountNo;

}

**public** **void** setAccountNo(**int** accountNo) {

**this**.accountNo = accountNo;

}

**public** **int** getAccountBalance() {

**return** accountBalance;

}

**public** **void** setAccountBalance(**int** accountBalance) {

**this**.accountBalance = accountBalance;

}

**public** String getAccountPassword() {

**return** accountPassword;

}

**public** **void** setAccountPassword(String accountPassword) {

**this**.accountPassword = accountPassword;

}

**public** String getBankName() {

**return** bankName;

}

**public** **void** setBankName(String bankName) {

**this**.bankName = bankName;

}

**private** **int** accountNo;

**private** **int** accountBalance;

**private** String accountPassword;

**private** String bankName;

Account() {

}

**public** Account(**int** accountNo, **int** accountBalance, String accountPassword, String bankName) {

**super**();

**this**.accountNo = accountNo;

**this**.accountBalance = accountBalance;

**this**.accountPassword = accountPassword;

**this**.bankName = bankName;

}

**void** displayAccount() {

System.***out***.println("---------Account Summary---------");

System.***out***.println("Account Number : " + accountNo);

System.***out***.println("Account Balance : " + accountBalance);

System.***out***.println("Account Password : " + accountPassword);

System.***out***.println("Bank Name : " + bankName);

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

}

}

**public** **class** Assignment\_5 {

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

// **TODO** Auto-generated method stub

**int** acNo;

**int** accBal;

String accPassword;

String bankName;

System.***out***.println("-------|ASSIGNMENT 5|-----------");

Scanner myObj = **new** Scanner(System.***in***);

System.***out***.println("Enter the Account Number : ");

acNo = myObj.nextInt();

System.***out***.println("Enter the Balance : ");

accBal = myObj.nextInt();

System.***out***.println("Enter the Account Passsword :");

accPassword = myObj.next();

System.***out***.println("Enter the Bank Name : ");

bankName = myObj.next();

Account acc = **new** Account(acNo, accBal, accPassword, bankName);

acc.displayAccount();

acc.setBankName("HDFC");

acc.displayAccount();

acc.setAccountBalance(1000);

acc.displayAccount();

}

}