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:-

```java
//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();


	}

}
```