Class Test-01 (65_C)

CSE 221: Object Oriented Programming (Spring-2025)

Name: ID:

1) Read the below code for answering the following question:

```
class DataStore {
    int dataCount = 75;
    static int totalRecords = 500;
    void processData() {
        int tempValue = 25;
        System.out.println("Temporary Value: " + tempValue);
        System.out.println("Data Count: " + dataCount);
        System.out.println("Total Records: " + totalRecords);
    }
    public static void main(String[] args) {
        DataStore record1 = new DataStore();
        DataStore record2 = new DataStore();
        record1.dataCount = 100;
        record2.dataCount = 200;
        record1.totalRecords = 600;
        record1.processData();
        record2.processData();
    }
}
```

a) Find out the **local variable, instance variable,** and **static variable** in the given program and also explain the reason. (Mark: 03)

Local Variable:	tempValue (Declared inside processData() method)
Instance Variable:	dataCount (Declared inside DataStore class but outside any method)
Static Variable:	totalRecords (Declared inside DataStore class with static keyword)

b) Write the expected **output** of the above program. (Mark: 03)

Temporary Value: 25
Data Count: 100
Total Records: 600

Temporary Value: 25
Data Count: 200
Total Records: 600

2) Mr. Alif has run the following program in his computer. But, the compiler showed error in line 27 & 29. Then, he became confused. Then he removed those two lines and run again. Then the program has been executed successfully without any error. Now, read the following code for answering the question.

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```
1.   package myPackage;
2.
3.   class Account {
4.       private double balance = 1000.50;
5.       protected String accountType = "Savings";
6.       public String bankName = "Global Bank";
7.       int branchCode = 1234;
8.
9.       private void showBalance() {
10.          System.out.println("Balance: $" + balance);
11.      }
12.
13.      public void displayDetails() {
14.          showBalance();
15.          System.out.println("Account Type: " + accountType);
16.          System.out.println("Bank Name: " + bankName);
17.          System.out.println("Branch Code: " + branchCode);
18.      }
19.  }
20.
21.  public class Bank {
22.      public static void main(String[] args) {
23.          Account acc = new Account();
24.          System.out.println("Bank Name: " + acc.bankName);
25.          System.out.println("Account Type: " + acc.accountType);
26.          System.out.println("Branch Code: " + acc.branchCode);
27.          System.out.println("Balance: " + acc.balance);
28.          acc.displayDetails();
29.          acc.showBalance();
30.      }
31.  }
```

a) Explain the reason of the showing error in line 27 & 29. **(Mark: 02)**

Line 27	balance is declared as private.
Line 29	showBalance() method is declared as private.

b) Write the output the above code after removing line 27 & 29. **(Mark: 03)**

```
Bank Name: Global Bank
Account Type: Savings
Branch Code: 1234
Balance: $1000.5
Account Type: Savings
Bank Name: Global Bank
Branch Code: 1234
```

c) Give the "✔/Yes" or, "✗/No" in the below index according to the column-wise conditions for the given Variable/Method. **(Mark: 04)**

Variable/Method	Same Class	Same Package	Subclass (Diff. Package)	Non-Subclass (Diff. Package)
balance	✔	✗	✗	✗
accountType	✔	✔	✔	✗
bankName	✔	✔	✔	✔
branchCode	✔	✔	✗	✗