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.

Class Test-01 (65_C)

```
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	✓	✓	✗	✗