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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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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	✓	✓	✗	✗