National University

Of Computer & Emerging Sciences Chiniot - Faisalabad Campus

CL-1004 Object Oriented Programming

Lab # 9

Objectives:

1. Role Access Specifier in Inheritance.
2. Order of Calling Constructor and Destructor in Inheritance.

Note: Carefully read the following instructions (*Each instruction contains a weightage*)

1. Solve your tasks in same sequence as given in lab manual.
2. First think about statement problems and then write your program.
3. Write Program in C compiler/IDE and save source file **for each program.**
4. Do not copy from any source otherwise your tasks will not accept.
5. Complete your lab **within given Time Slot**.
6. Add your source code in this **word document (take screen shots of code + output)** + CPP files **only**.
7. Please submit your **All files** with this naming convention ROLLNO_SECTION_LABNO. 22F-12345_BCS-2BA_Lab1
8. Submit your lab on Google Classroom, No Zip File should be submitted.

Task1:

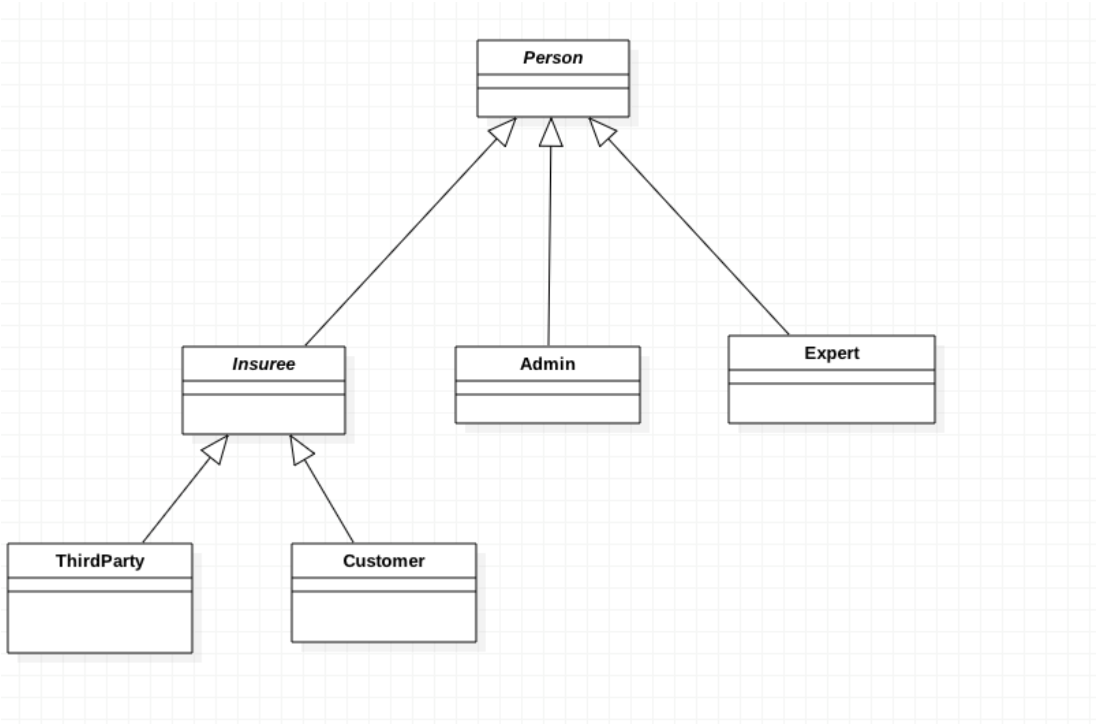
Create a program to demonstrate how the access specifier effects the members in derived class and how the different type of derivation (public, protected, private) effects on inherited members.

Inheritance Members	Public	Protected	Private
Public			
Protected			
Private			

Use error log to demonstrate inaccessible members and describe why they are inaccessible.

Task2:

Assume the following class hierarchy to demonstrate order of call of constructors and destructors at the creation of objects of specialized classes. i.e. Show is destructor of base class is called before derived class of not? Demonstrate all combination.

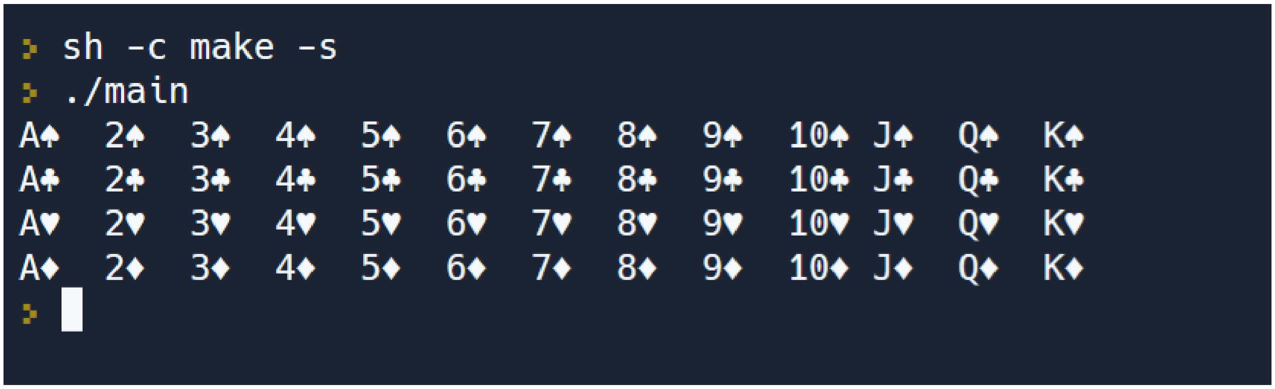


Task 3:

Demonstrate diamond problem and different solutions for solving it.

Task 4:

Create a class to hold data of playing card i.e. its Number (Ace, 2 ,3 ,4 ,5 ,6 ,7 ,8 ,9 ,10 ,Jack ,Queen ,King) and its Suit (Diamond ♦, Spades ♠, Heart ♥, Club ♣). Also create a deck of card that consist of 13 cards from each suit total 52 cards in a deck. Use appropriate symbols from ASCII chart to show each Card i.e. King of Heart would be printed as K♥ and Ace of Spades would be Shown as A ♠. Set a complete deck of cards and print it.



```
› sh -c make -s
› ./main
A♠   2♠   3♠   4♠   5♠   6♠   7♠   8♠   9♠   10♠  J♠   Q♠   K♠
A♣   2♣   3♣   4♣   5♣   6♣   7♣   8♣   9♣   10♣  J♣   Q♣   K♣
A♥   2♥   3♥   4♥   5♥   6♥   7♥   8♥   9♥   10♥  J♥   Q♥   K♥
A♦   2♦   3♦   4♦   5♦   6♦   7♦   8♦   9♦   10♦  J♦   Q♦   K♦
›
```