

**ECE 220 – Computer Programming for Engineering – Winter 2017****Laboratory/Assignment: “OO...”  
Pre-Lab/Assignment TUTORIAL**

The tutorial focuses on a few activities that involve designing and implementing a class (based on a simple data structure, below) – its elements and methods; implementing multiple constructors, and usage of this class in a program.

**Initial piece of code ...:**

```
#include <iostream>
#include <string.h>
using namespace std;

#define NAME_MAXL 30

struct BankAccount {
    char name[NAME_MAXL];
    int account_number;
    double balance;
};
```

**Individual atomic tasks (7 in total):**

1. create a class `BankAccount` based on the above structure (all members/fields should be private)
2. write the following constructors:
  - a. simple one – zeroing all members (fields) of an object
  - b. accepting name, zeroing the rest
  - c. accepting name, `account_number`, `balance`
3. write a public method `printSummary()` that displays all members/fields of an object
4. in the main program, create three objects of the above class:  
`daveAcc` (using constructor a),  
`cindyAcc` (using constructor b, with name: `Cindy`),  
`billAcc` (using constructor c, with name: `Bill`, `account_number`: `123456`, `balance`: `2000`),  
display their content using `printSummary()`

**see program-1.cpp to check your coding so far ...**

5. write public methods that:
  - a. assign a value to `name`
  - b. assign a value to `account_number`
  - c. assign a value to `balance`
6. write the following methods:
  - a. `double withdraw(double)`  
it takes amount to withdraw as input, in `double`  
it returns actual withdrawn amount, in `double`  
(please, be sure the balance does not go negative, if balance can go negative – you do not preform operation, but inform it is not possible due to lack of funds)
  - b. `void deposit(double)`  
it takes amount to deposit as input, in `double`
  - c. `double getBalance()`  
it returns current balance, in `double`
7. in the main program (continuation from the point 4) do the following:  
withdraw 500 form Bill's account  
withdraw 2500 from Bill's account one more time  
display balance of Bill's account  
deposit 1250 to Bill's account  
display balance of Bill's account

**see program-2.cpp to check your final coding**