

Ahmadu Bello University
Department of Mathematics
COSC211: Alternative to Practical Test II: April 2015

Attempt **both** questions.

Time: 60 min

1. Create a `BankAccount` class having the following.
 - (a) Two private final *instance fields*: `clientName` and `accountNumber`. They store the name of the account owner and the account number, respectively.
 - (b) One private *instance field*: `accountBalance`. This stores the amount of the balance at any moment.
 - (c) One private *class field*: `numAccounts`. This stores the number of accounts that have been created.
 - (d) *Getters* for each of the above fields.
 - (e) A single *constructor* that takes two parameters: one that sets the client's name, and one used to set the initial account balance. The constructor should also update the `numAccounts` field and assign a value to the `accountNumber` field.
 - (f) A `deposit()` *method* that allows money to be deposited into the account.
 - (g) A `withdraw()` *method* that allows money to be withdrawn from the account.

2. Create a program that will do the following.
 - (a) Create three bank accounts based upon the class you defined in answering question one above, giving each a suitable name and initial balance.
 - (b) Demonstrate the use of the `deposit()` method by depositing an amount into one of the accounts. The account balance should be displayed both before and after this transaction to demonstrate its working.
 - (c) Demonstrate the use of the `withdraw()` method by withdrawing an amount from one of the accounts. The account balance should be displayed both before and after this transaction to demonstrate its working.
 - (d) Display the number of accounts created both at the beginning of the program and at its end.