

Ahmadu Bello University  
Department of Mathematics  
Continuous Assessment Test 2 – March 2016  
COSC211: Object Oriented Programming I

Time: 60 mins

(a) Design a class named `Account` that contains:

- (i) A private int data field named `pin`.
- (ii) A private double data field named `balance`.
- (iii) A private String data field named `accountName`.
- (iv) A private double data field named `annualInterestRate` that stores the current interest rate. Assume all accounts have the same interest rate.
- (v) A *no-arg constructor* that creates a default `Account` instance.
- (vi) A *constructor* that creates an `Account` instance with a specified `pin`, `accountName`, and initial `balance`.
- (vii) *Accessor* and *mutator* methods (*getters* and *setters*) for `pin`, `accountName`, and `annualInterestRate`.
- (viii) An *accessor* method (*getter*) for `balance`.
- (ix) A method named `withdraw()` that withdraws a specified amount from the account.
- (x) A method named `deposit()` that deposits a specified amount into the account.

(b) Write a test program that creates an `Account` object with an account `pin` of 1100, a balance of ₦20,000.00 and an annual interest rate of 4.5%. Use the `withdraw()` method to withdraw ₦2,500.00, use the `deposit()` method to deposit ₦4,000.00, and display the name, balance, and the monthly interest.

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