

## ASDV 2420, Adv Prog Lang I

### Lab 1

1. (The Account class) Implement a class named Account that contains:

1. A private int data field named id for the account (default 0).
2. A private double data field named balance for the account (default 0).
3. A private double data field named annualInterestRate that stores the current interest rate (default 0). Assume all accounts have the same interest rate. That is a static variable.
4. A private Date data field named dateCreated that stores the date when the account was created.
5. A no-arg constructor that creates a default account.
6. A constructor that creates an account with the specified id and initial balance.
7. The accessor and mutator methods for id, balance, and annualInterestRate.
8. The accessor method for dateCreated.
9. A method named getMonthlyInterestRate() that returns the monthly interest rate.
10. A method named withdraw that withdraws a specified amount from the account.
11. A method named deposit that deposits a specified amount to the account.
12. A method equals that compares id, balance, date of creation. Standard equals for true/false.
13. A method toString() that returns String that includes all fields.

Test all methods all constructors in main using your own objects.

2. Implement a class named MyInteger. The class contains:

1. An int data field named value that stores the int value represented by this object.
2. A constructor that creates a MyInteger object for the specified int value.
3. A get method that returns the int value.
4. Methods isEven(), isOdd(), and isPrime() that return true if the value is even, odd, or prime, respectively.
5. Static methods isEven(int), isOdd(int), and isPrime(int) that return true if the specified value is even, odd, or prime, respectively.
6. Static methods isEven(MyInteger), isOdd(MyInteger), and isPrime(MyInteger) that return true if the specified value is even, odd, or prime, respectively.
7. Methods equals(int) and equals(MyInteger) that return true if the value in the object is equal to the specified value.
8. A static method parseInt(char[]) that converts an array of numeric characters to an int value.
9. A static method parseInt(String) that converts a string into an int value.
10. A method equals that compares the values. Standard equals for true/false.
11. A method toString() that returns String of the value.

Test all methods all constructors in main using your own objects.