

## Sample Midterm Exam Questions

**These questions are representative of the types and format of the midterm exam questions. The instructor has given similar questions in the past. Student must show all work for full or partial credit.**

1. Given the class definition below, write a member function that checks if two strings (as defined below) are equal. Give PRE and POST conditions for the operator== you write.

```
class String {
public:
    string() { s[0] = 0; };
    bool operator==(const String&) const;

private:
    char s[256]; //null terminated character array
};
```

2. What are the three components of an abstract data type (ADT)?
3. Overload operator>> for the string class defined in problem 1. You can assume it is a friend function. Read in a string from a stream until a semicolon (;) is read. Blanks MUST be included into the string, but the end of line character or semicolon should NOT. You do not need to check for end of file.
4. Overload operator<< for the bigInt class in project 1. You can assume it is a friend function. Output such that there are a maximum of 60 digits per line. Assume there is a constant value called BIGINT\_CAPACITY.
5. Write a template class for the ADT Array. You must use a dynamic array. You must implement the following:
  - constructor with a specific capacity provided
  - destructor
  - copy constructor