

Name: _____

Class Day / Time: _____

Due Date: _____

Lab Exercise – Date Class

Implement the DATE CLASS using the following methods and attributes:

public:

```

/*****
    CONSTRUCTORS & DESTRUCTOR
*****/

```

Date();

```
//uses private utility methods
```

```
Date(unsigned short month,
      unsigned short day,
      unsigned short year);
```

~Date();

```

/*****
    MUTATORS
*****/

```

```
// uses private utility methods
```

```
void SetDate(unsigned short month,
             unsigned short day,
             unsigned short year);
```

```

/*****
    ACCESSORS
*****/

```

```
void GetDate(unsigned short &month,
             unsigned short &day,
             unsigned short &year) const;
```

```
unsigned short GetYear() const;
unsigned short GetMonth() const;
unsigned short GetDay() const;
```

```
// Displays in MM/DD/YYYY format
string DisplayDate() const;
```

private:

```

/*****

```

```

UTILITIES METHODS
*****/
unsigned short GetDaysInMonth(unsigned short month,
                             unsigned short year) const;

bool IsLeapYear(unsigned short year) const;

/*****
VALIDATE METHODS
*****/

// Validates the month
bool ValidateMonth(unsigned short month) const;

// Checks if a day is valid takes leap year into consideration
bool ValidateDay(unsigned short month,
                unsigned short day,
                unsigned short year) const;

// Validates the year is between 1900 and the current year
bool ValidateYear(unsigned short year) const;

// Uses methods above to validate a given date - checks against current day
bool ValidateDate(unsigned short month,
                 unsigned short day,
                 unsigned short year) const;

/*****
ATTRIBUTES
*****/
unsigned short dateMonth;
unsigned short dateDay;
unsigned short dateYear;

```

Write a main to test your Date Class, invoking all public class methods.

Test your code thoroughly.

Turn in (On-line)

1. **Output** → cut and pasted to a txt file within eclipse
2. **Header Files** (General header file then class header file)
3. Main
4. Implementation of any necessary functions
5. Implementation of all Class Methods