**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_ Days Elapsed Quiz**

**Part I.**

Suppose there was a calendar that had 5 months and is 100 days long where each month is 20 days. When using this calendar, the number of days in a year varies on “special years”. A “special year” happens when the year is divisible by 5 . During a “special year” the number of days in Month 2 is increased by n extra days where n is the remainder of the year divided by 6. Also, during a “special year” the number of days in Month 3 is decreased by five days. The method NumDaysInYear calculates and returns the number of days in the year based on the year that is passed in. You may assume that the year is positive and is less Integer.MAX\_VALUE. MAX\_VALUE is a constant that stores the largest possible int in Java.

The following table show several examples. The number on the left column represents year passed in as a to method NumDaysInYear. The number on the right column shows the number of days in the year after a call to the method.

|  |  |
| --- | --- |
| Year | NumDays |
| 2000 | 97 |
| 1808 | 100 |
|  |  |

**Complete the NumDaysInYear method below.**

public int NumDaysInYear (int year) {

//precondition: year is a positive number, 0 <= year <= Integer.MAX\_VALUE

//postcondition:NumDaysInYear returns the number of days in the year.

// The number of days is 100 if year is not divisible by 5.

// Otherwise, the number of days is 100, increased by the remainder

// of year divided by 6 and decreased by 5

**Part II.**

The StartDateIsBeforeEndDate method determines whether a starting date is before the ending date. A date is defined by the month number and day number. The StartDateIsBeforeEndDate method will return true if the start date is chronologically before the end date and return false if the start date is the same as the end date or chronologically after the end date. The following table shows several examples.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Start  Month | Start Day | End Month | End  Day | Return  value |
| 2 | 15 | 2 | 16 | true |
| 2 | 15 | 2 | 15 | false |
| 2 | 15 | 2 | 14 | false |
| 2 | 15 | 3 | 10 | true |

In the calendar that uses this method, a year has 5 months and is 100 days long where each month is 20 days as described in Part I. When writing the method, you may assume that it will be called for non-special years only. In other words, each month is 20 days long.

**Complete the** **StartDateIsBeforeEndDate method below.**

public boolean StartDateIsBeforeEndDate (int sMon, int sDay, int eMon, int eDay) {

//precondition: sMon, sDay, eMon and eDay represent the start date and end date

// from a “non special year” where each month is 20 days long

//postcondition: The method will return true if the start date is before end date

// and false if the start date is on or after the end date