

/*Project 1 - Harley Phung

Task 3: create a Date class that represents dates with day, month, and year. It can increment the date and override the toString method and equals method.

*/

```
public class Date {
    //A field that stored the day (from 1 to 31)
    private int day = 1;
    //A field that stored the month (from 1 to 12)
    private int month = 1;
    //A field that stored the year
    private int year = 1;

    //Constructor
    public Date(int day, int month, int year) {
        //check the input day to be in between 1 and 31
        if (this.day < 1) {
            this.day = 1;
        }
        else if (this.day > 31) {
            this.day = 31;
        }
        else {
            this.day = day;
        }

        //check the input month to be in between 1 and 12
        if(this.month < 1) {
            this.month = 1;
        }
        else if(this.month > 12) {
            this.month = 12;
        }
        else {
            this.month = month;
        }

        this.year = year;

        //check the input month that has number of day less than 31.
        if(this.day > 30 && (this.month == 4 || this.month == 6 || this.month == 9 ||
this.month == 11)) {
            this.day = 30;
        }
        if(this.day > 28 && this.month == 2) {
            this.day = 28;
        }
    }

    //A method that get Day
    public int getDay() {
        return this.day;
    }

    //A method that get Month
    public int getMonth() {
        return this.month;
    }
}
```

```

//A method that get Year
public int getYear() {
    return this.year;
}

// A method that increment day. If the day exceed number of days in month or
year, returns the first day of next month or year
public void incrementDay() {
    this.day = this.getDay() + 1;
    if ((this.getDay() > 31 && (this.getMonth() == 1 || this.getMonth() == 3 ||
this.getMonth() == 5 || this.getMonth() == 7 || this.getMonth() == 8 ||
this.getMonth() == 10))) {
        this.day = this.getDay() - 31;
        this.month = this.getMonth() + 1;
    }
    else if (this.getDay() > 30 && (this.getMonth() == 4 || this.getMonth() == 6 ||
this.getMonth() == 9 || this.getMonth() == 11)) {
        this.day = this.getDay() - 30;
        this.month = this.getMonth() + 1;
    }
    else if (this.getDay() > 28 && this.getMonth() == 2) {
        this.day = this.getDay() - 28;
        this.month = this.month + 1;
    }
    else if (this.getDay() > 31 && this.getMonth() == 12) {
        this.day = this.getDay() - 31;
        this.month = 1;
        this.year = this.getYear() + 1;
    }
}

//toString method that shows Month's name
public String toString() {
    if (this.getMonth() == 1) return ("January," + getDay() + "," + getYear());
    else if ( this.getMonth() == 2) return ("Febuary," + getDay() + "," +
getYear());
    else if ( this.getMonth() == 3) return ("March," + getDay() + "," + getYear());
    else if ( this.getMonth() == 4) return ("April," + getDay() + "," + getYear());
    else if ( this.getMonth() == 5) return ("May," + getDay() + "," + getYear());
    else if ( this.getMonth() == 6) return ("June," + getDay() + "," + getYear());
    else if ( this.getMonth() == 7) return ("July," + getDay() + "," + getYear());
    else if ( this.getMonth() == 8) return ("August," + getDay() + "," +
getYear());
    else if ( this.getMonth() == 9) return ("September," + getDay() + "," +
getYear());
    else if ( this.getMonth() == 10) return ("October," + getDay() + "," +
getYear());
    else if ( this.getMonth() == 11) return ("November," + getDay() + "," +
getYear());
    else if ( this.getMonth() == 12) return ("December," + getDay() + "," +
getYear());
    return this.getMonth() + "," + this.getDay() + "," + this.getYear();
}

// equals method that shows if the input Date are the same
public boolean equals(Date d) {
    if(d == null){
        return false;
    }

```

```
    }  
    if(this.getDay() == d.getDay() && this.getMonth() == d.getMonth() &&  
this.getYear() == d.getYear()){  
        return true;  
    }  
    return false;  
}  
}
```