Goal: Create a Daily Planner

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User should be able to:

- Create events
- View events → Enter a date or automatically pull date up.

Limits:

- No 2 events can happen at the same time

Make the output look pretty

Possible Extension: Save events to a file + Read events from file to save user data

Back end

Array of dates → Issue: Can't create an array with all dates ever

Array of events → findDate method combs through dates of events until it finds a match (equals method can compare dates of events?)

Date → Extends Calendar with added functionality for events.

Front end

Create New Event (Enter C)
View Event (Enter V)
Exit (Enter E)

Enter Date (xx/xx/xxxx):
→ String formatting

Event Title:
→ Converting that to a date we can store and manipulate
Start Time:
End Time:

MM/DD/YYYY
EVENT TIME

For each class that will be used to create objects, list:

- Event Class
    - Class Constants
        - LONGEST_MONTH_DATE
        - MID_MONTH_LENGTH
        - SHORTEST_MONTH_LENGTH
        - int[] DAYS_OF_MONTHS

    - Instance Variables
        - String/Date date
        - String startTime
        - String endTime
        - String eventDescription

    - Constructor(s)
        - Event(String date, String startTime, String endTime, String description)
        - <method header>

    - Methods
        - public static void findDate(String date)
        - public String getDescription()
        - public String getStartTime()
        - public String getEndTime()
        - public String getDate();
        - public boolean noPlans(String date, String startTime, string endTime)
        - public String toString()
        - public boolean isOverlapping(Event event)
        - BONUS METHOD
            - public void saveEvents(Event[] events)
            - Public Event[] retrieveEvents()

For each class that will not be used to create objects, list:

- Daily Planner
    - Class Constants
        - Events events[]
        - <type name>
        - <type name>
- o Methods
    - public static void main()
    - <method header>
    - <method header>
    - <method header>

```
 /** Most days a month can have */
   public static final int LONGEST_MONTH_DATE = 31;

   /** Days in April */
   public static final int MID_MONTH_LENGTH = 30;

   /** Least amount of days a month can have */
   public static final int SHORTEST_MONTH_LENGTH = 28;
```

```
public static String getEndDate(int numMonth, int numDay) {
        if (!(isValidDate(numMonth, numDay))){
            throw new IllegalArgumentException("Invalid date");
        }


        for (int i = 0; i < DATA_PLAN_LENGTH_MONTHS; i++){
            numMonth += 1;
            if (numMonth == 2 || numMonth == APRIL || numMonth == JUNE){
                lengthOfPriorMonth = LONGEST_MONTH_DATE;
                numDay = THIRD_OF_PLAN_LENGTH - (lengthOfPriorMonth - numDay);
            }
            if (numMonth == MARCH){
                lengthOfPriorMonth = SHORTEST_MONTH_LENGTH;
                numDay = THIRD_OF_PLAN_LENGTH - (lengthOfPriorMonth - numDay);
            }
            if (numMonth == MAY){
                lengthOfPriorMonth = MID_MONTH_LENGTH;
                numDay = THIRD_OF_PLAN_LENGTH - (lengthOfPriorMonth - numDay);
            }
        }
        numDay -= 1;

        if (numMonth == JUNE && numDay <= 0){
            numMonth -= 1;
            lengthOfPriorMonth = MID_MONTH_LENGTH;
            numDay = lengthOfPriorMonth + numDay + 1;
        }

        return (numMonth + "/" + (numDay) + "/22");

    }
```