CS-UY 1114 LAB 11, Spring 2018

In this lab, you will learn about object oriented programming, specifically, how to:
- Define a class
- Define class variables and class methods

Programming Questions:

Create an object, `Calendar`, that models the Page-A-Day Calendar with the added feature of a To-Do List! Here are the requirements for the lab:

You will define 2 classes, a `Calendar` class and a `ToDoList` class, that will work with the provided main function.

Requirements for the `Calendar` Class:
- Keeps track of today's month, day and year
- Keeps track of the day of the week
- Has a To-Do List object as member variable
- Has the following class methods:
    - __init__: to allow the creation of the Calendar object
    - __repr__: to receive a string representation of the Calendar object (see main function and example interaction)
    - start_new_day: Change the date and day of the week to the next day. Resets ToDoList object so the list will start off blank again.

Requirements for the `ToDoList` Class:
- Has a list for keeping track of all the task names and whether the task is completed or not
- Has the following class methods:
    - __init__: to initialize a new ToDoList object
    - create_to_do_list_item: method for adding a new task to the list. By default, the task is not completed when added to the list.
    - check_to_do_list: ask user whether unfinished tasks are now completed. If the user completed the task, mark the task as complete.
    - __repr__: to receive a string representation of the ToDoList object (see main function and example interaction)

You should not modify the provided main function!!! Define your classes and methods for the purpose of working with the main function.

You can define helper methods in the class to keep your code organized and readable

Here's the main function that will allow the example interaction to occur (see next page):

```python
def main():
    calendar = Calendar()
    while True:

        print("\nMain Menu:")
        print("1. Create New Calendar")
        print("2. Add To-Do List Item")
        print("3. Check Off To-Do List")
        print("4. Show Today's Calendar")
        print("5. Start The Next Day\n")

        answer = input("What would you like to do? ")
        if answer == '1':
            calendar = Calendar()
        elif answer == '2':
            calendar.to_do_list.create_to_do_list_item()
        elif answer == '3':
            calendar.to_do_list.check_to_do_list()
        elif answer == '4':
            print(repr(calendar))
        elif answer == '5':
            calendar.start_new_day()
```

Here's a summary of the example interaction:

1. Calendar is initialized
2. User chose option 2 to add the task "do homework"
3. User chose option 2 to add the task "exercise"
4. User chose option 4 to see the calendar page for today
5. User chose option 3 to check off the completed tasks
6. User chose option 5 to start the next day

The following interaction happened after the main function is called:

```
Please enter today's date in mm/dd/yy format: 11/30/17
Please enter the day of the week today (1 for Monday and 7 for Sunday): 4

Main Menu:
1. Create New Calendar
2. Add To-Do List Item
3. Check Off To-Do List
4. Show Today's Calendar
5. Start The Next Day

What would you like to do? 2
Enter the task: do homework

Main Menu:
1. Create New Calendar
2. Add To-Do List Item
3. Check Off To-Do List
4. Show Today's Calendar
5. Start The Next Day

What would you like to do? 2
Enter the task: exercise

Main Menu:
1. Create New Calendar
2. Add To-Do List Item
3. Check Off To-Do List
4. Show Today's Calendar
5. Start The Next Day

What would you like to do? 4
```

```
Today's date is: Thursday 11/30/17

Today's Accomplishment
=========================

Things Left To Do
=========================
do homework
exercise


Main Menu:
1. Create New Calendar
2. Add To-Do List Item
3. Check Off To-Do List
4. Show Today's Calendar
5. Start The Next Day

What would you like to do? 3
Did you do homework? (y/n) y
Did you exercise? (y/n) y

Updated To-Do List:

Today's Accomplishment
=========================
do homework
exercise

Things Left To Do
=========================


Main Menu:
1. Create New Calendar
2. Add To-Do List Item
3. Check Off To-Do List
4. Show Today's Calendar
5. Start The Next Day

What would you like to do? 5

Today's date is: Friday 12/1/17
```

```
Today's Accomplishment
=========================

Things Left To Do
=========================


Main Menu:
1. Create New Calendar
2. Add To-Do List Item
3. Check Off To-Do List
4. Show Today's Calendar
5. Start The Next Day

What would you like to do?
```