**Software Development Report**

for

# CSC 121: Programming I: Spring 2022

**Last Lab**

by

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**Problem summary:**

This program is to adapt the program from the 7th lab but storing data in arrays instead of files.

**Problem Requirements:**

* Not using files.
* It should use an array to store a number of days
* Only create an entry in the array of days when there is at least one task for it.
* The array doesn’t need to be sorted.
* If a task is being added to a day that already exists (i.e. has at least one task in it already), the new task should just be added to that task.
* It should be able to find a given day in the list of days.

**System design:**

* CalendarKeeper 🡪 class with main method
* Calendar, Date, Day, Task are the other classes with the methods
* To design the program, I used the example classes from the lab (Date, Day and Task) and adapted them for the existing CalendarKeeper program I already had from the 7th lab. I changed everything that involved files for arrays and added a couple methods.

**Testing Report**

**Example test:**

1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
1  
Add a task for day.  
Enter a valid date [year monthNumber day]  
2022 04 30  
Enter number of hours for the task:   
3  
Number of hours for the task is:3.0  
Enter a task name (Enter to abort task creation):   
aaa  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
1  
Add a task for day.  
Enter a valid date [year monthNumber day]  
2022 04 30  
Enter number of hours for the task:   
2.5  
Number of hours for the task is:2.5  
Enter a task name (Enter to abort task creation):   
bbb  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
1  
Add a task for day.  
Enter a valid date [year monthNumber day]  
2022 04 12  
Enter number of hours for the task:   
2  
Number of hours for the task is:2.0  
Enter a task name (Enter to abort task creation):   
ccc  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
1  
Add a task for day.  
Enter a valid date [year monthNumber day]  
2022 05 12  
Enter number of hours for the task:   
4.5  
Number of hours for the task is:4.5  
Enter a task name (Enter to abort task creation):   
ddd  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
2  
Enter a valid date [year monthNumber day]  
2022 04 30  
2022/4/30  
3.0 hours doing aaa  
2.5 hours doing bbb  
For a total of 5.5 hours.  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.  
  
Select an option number (0 to exit):  
2  
Enter a valid date [year monthNumber day]  
2022 04 12  
2022/4/12  
2.0 hours doing ccc  
For a total of 2.0 hours.  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
2  
Enter a valid date [year monthNumber day]  
2022 05 12  
2022/5/12  
4.5 hours doing ddd  
For a total of 4.5 hours.  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
3  
Enter a valid date [year monthNumber day]  
2022 04 30  
5.5  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.

Select an option number (0 to exit):  
4  
Enter a valid year:  
2022  
Enter a valid month of the year:  
04  
7.5  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.  
  
Select an option number (0 to exit):  
4  
Enter a valid year:  
2022  
Enter a valid month of the year:  
05  
4.5  
  
1. Add a task.  
2. Diplay information about a day.  
3. Show the number of hours assigned to a day.  
4. Show the number of hours assigned to a month.  
  
Select an option number (0 to exit):  
0  
Program ended!

**Time Spent**

This program and development report took me about 11/12 hours.

**Outside resources used**

Resources from the lectures, labs, the internet, and advise from my dad were used to develop this program.

**Security report**

No security problems

**Ethical report**

There are no ethical issues with this software.

**Future Improvements**

I can’t think of any possible improvements

# Lessons learned

In this program I have put together all the programing knowledge I have right now. I think this was a good exercise to do as a lab because I needed to implement almost everything that we have done during this course. Here there are reflected all the things I have learnt in this course coming from not knowing how to program at all, so all the progress can be observed.