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Object Oriented Programming

Professor Carpenter

29 September 2019

Lab02 Schedule Python

The main goal of this program is to read the professor's schedule from a text file and take an input from a user to search for either an hour or activity. The program uses the inputs from the user and the `'_index'` method of an array to output the corresponding activity or hour, depending on how the user wanted to search the schedule.

The code for this program handles user input error very differently from Lab01. This program uses a method from the array class to search for the index of a given input. This is much faster than iterating through a loop trying to find a match to an input. The only issue that came up is that when the user inputs an hour or activity that cannot be found in the corresponding array. The way this was handled for this program was through the usage exception handling. This allows the program to try to execute a print out using the index method for an array. But, if that print out runs into an exception for not finding the input, either the hour or activity, it will print out an error message to the user and tell the user to try again.

When running the program, it will take a command from the user for a choice. If the user does not enter a correct choice, they will be prompted to try again. If they choose to search by number, they can enter an integer ranging from 0-24 and the corresponding activity will be printed out. If they choose to search by activity the user can input a string and if the string corresponds to an hour, that hour will be printed out. If the user does not enter a valid input for either the hour or the activity, they will receive an error message to try again. The program handles all situations where the user enters all the correct information, but it also handles all situations where the user enters incorrect information. The exception handling for this program is written for Python 3, not Python 2.

```
#include ...
using namespace std;

(based off template)
Print a menu to prompt user for input
{
    option 0: Exit
    option 1: Search by number
    option 2: Search by activity
}

open text file

int main() {
    while loop until the user exits:
        option for input choice of 1:
            print prompt to user
            take input and use it to pass to method for array of hours and return index value
            print out the index of the activity array at the same index
            handle the exception if the user does not enter a valid hour
            print out error message and tell user to try again

        option for input choice of 2:
            print prompt for user
            take input and use it to pass to method for array of activity and return index value
            print out the index of the hour array at the same index
            handle exception if the user does not enter a valid activity
            print out error message tell user to try again

        option for the input choice of 0:
            exit the program
}
```

```
Last login: Sun Sep 29 04:02:57 2019 from 12.232.215.90
kearnsm2@turing:~$ cd OOP_Fall/
kearnsm2@turing:~/OOP_Fall$ python3 Lab02.py
.....
Enter 0 to exit
Enter 1 to search by number
Enter 2 to search by activity
1
Enter an hour
5
Snoozing
.....
Enter 0 to exit
Enter 1 to search by number
Enter 2 to search by activity
1
Enter an hour
9
Error. Please enter an hour from 0-24
.....
Enter 0 to exit
Enter 1 to search by number
Enter 2 to search by activity
2
Enter an activity
Napping
16
.....
Enter 0 to exit
Enter 1 to search by number
Enter 2 to search by activity
2
Enter an activity
7
Error. Activity not found
.....
Enter 0 to exit
Enter 1 to search by number
Enter 2 to search by activity
```