Syzygy Technical Support Manual

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Overview of Program

Syzygy 0.1 is currently composed by a clock and calendar which is set and shown automatically, or can be set by user. A list of all files is printed upon command, confirmation is requested on attempt to exit, and information and help is available for all commands.

Program Structure

1. “libraries.h”: this file contains all #include lines for libraries and files used throughout the program. The list of files currently includes: “Assigment1.h”(line 13). The list of libraries includes: string, ctime, sctdlib, vector, isostream, fstream, time.h, stdio.h, and dirent.h (lines 4-12)
2. “text.txt”: this file contains the results of the tests of all functions declared in “Assignment1.h”, written in “Assignment1.cpp”, and called in “Assignment1.cpp” and/or

“main.cpp.”

1. “Assignment1.h”: this file includes the file “libraries.h”(line 4). The class “timeAndDate” is declared along with all private variables and public functions(lines 8-30). Functions declared outside class “timeAndDate” include: printWelcomeScreen(line 34), printOpeningMenu(line 37), incrementTime(line 40), printTime(line 43), printDate(line 46),userSetTime(line 49), printDirectoryFiles(line 55), and printHelpScreen(line 58).
2. “Assignment1.cpp”: this file includes the file “libraries.h”(line 1). The public functions of “timeAndDate”, which are declared in “Assignment1.h”, are defined(lines 5-97). Functions outside class “timeAndDate” are also written(line 95-622)

Function Descriptions

**ͼ** Public functions of class timeAndDate:

1. Constructor
2. Parameters: time\_t initialTime, tm \* timeInfo
3. Description: initializes private variables of timeAndDate class with values returned by preset functions of prewritten tm\* structure. Also changes hour variable from military time to analog time.
4. setTime
5. Parameters: int hour, int minute
6. Returns: no value but prints error if hour is greater than 12 or minute is greater than 59
7. Description: called when user sets the clock manually. Changes the private variables of chosen timeAndDate object to user-defined values passed as parameters
8. setFullDate
9. Parameters: int day, int month, int year
10. Returns: no value but prints error if input is not in integer form, day is greater than 30 or 31, or month is greater than 12.
11. Description: called when user sets calendar manually. Changes the private variables of chosen timeAndDate object to user-defined values passed as parameters.
12. setHour
13. Parameters: int hour
14. Returns: no value but prints error if value passed as parameter is greater than 24.
15. Description: sets private variable hour of chosen timeAndDate object to the value passed as parameter. If value passed is greater than 12, it is changed from military time to analog time.
16. setMinute
17. Parameters: int minute
18. Returns: no value but prints error if value is greater than 59.
19. Description: sets private variable minute of chosen timeAndDate object to the value passed as parameter, as long as said value is 59 or less.
20. setDay
21. Parameters: int day
22. Returns: no value but prints error if value is greater than 30 or 31, depending on month
23. Description: sets private variable day of chosen timeAndDate object to the value passed as parameter, as long as value is less than 30 or 31, depending on the month.
24. setMonth
25. Parameters: int month
26. Returns: no value but prints error if value is greater than 12.
27. Description: sets private variable month of chosen timeAndDate object to the value passed as parameter, as long as value is not greater than 12.
28. setYear
29. Parameters: int year
30. Description: sets private variable year of chosen timeAndDate object to the value passed as parameter.
31. getHour
32. Returns: private variable hour of chosen timeAndDate object.
33. Description: returns hour variable of chosen timeAndDate object.
34. getMinute
35. Returns: private variable minute of chosen timeAndDate object.
36. Description: returns minute variable of chosen timeAndDate object.
37. getDay
38. Returns: private variable date of chosen timeAndDate object.
39. Description: returns date variable of chosen timeAndDate object.
40. getMonth
41. Returns: private variable month of chosen timeAndDate object.
42. Description: returns month variable of chosen timeAndDate object.
43. getYear
44. Returns: private variable year of chosen timeAndDate object.
45. Description: returns year variable of chosen timeAndDate object.

**ͼ** printWelcomeScreen

1. Description: prints “Welcome to Syzygy 0.1 press enter to continue”

**ͼ** printOpeningMenu

1. Parameters: timeAndDate clock
2. Returns: number corresponding to menu number
3. Description: prints all command options for user, checks if user input is valid, and returns input if valid

**ͼ** incrementTime

1. Parameters: timeAndDate clock,tm \* &timeInfo, time\_t initialTime
2. Description: gets local time when called and creates tm structure with values retrieved from local time

**ͼ** printTime

1. Parameters: timeAndDate clock
2. Description: changes hour from military time to analog if needed, adds 0 before minutes if minute value is less than 10

**ͼ** printDate

1. Parameters: timeAndDate programClock
2. Descriptions: prints month, date, and year

**ͼ** userSetTime

1. Parameters: timeAndDate &programClock
2. Description:

**ͼ** userSetDate

1. Parameters: timeAndDate &programClock
2. Description: uses switch statements to ask for/validate user inputs for day, month, or year and changes object’s variables respectively if user input is valid

**ͼ** printDirectoryFiles

1. Parameters: timeAndDate &programClock
2. Description: finds and prints all files within the Syzygy directory

**ͼ** printHelpScreen

1. Paramters: timeAndDate &programClock
2. Description: prints menu of help topics and gives information about user selected topic

Data Structures Descriptions

1. timeAndDate class
2. Use: used to set up and manipulate clock and calendar when appropriate
3. Attributes
4. time\_t date: day value for calendar
5. time\_t month: month value for calendar
6. time\_t year: year value for calendar
7. time\_t hour: hour value for clock
8. time\_t minute: minute value for clock

Cross References

1. printWelcomeScreen
2. Called from:
3. main(line 16)
4. printOpeningMenu
5. Called from:
6. main(line 49,line 52, line 59)
7. printOpeningMenu(line 126)
8. printDirectoryFiles(line 557)
9. printHelpScreen(line 619)
10. Functions called within:
11. printOpeningMenu(line 126)
12. incrementTime
13. Called from:
14. main(line 26)
15. printTime
16. Called from:
17. main(line 27)
18. printDate
19. Called from:
20. main(line 28)
21. userSetTime
22. Called from:
23. main(line 32)
24. userSetTime(line 182, line 196, line 210, line 228, line 246)
25. Functions called within:
26. userSetTime(line 182, line 196, line 210, line 228, line 246)
27. userSetDate
28. Called from:
29. main(line 34)
30. userSetDate(line 298, line 314, line 322, line 329, line 339, line 347, line 385, line 499)
31. Functions called within:
32. userSetDate(line 298, line 314, line 322, line 329, line 339, line 347, line 385, line 499)
33. printDirectoryFiles
34. Called from:
35. main(line 36)
36. Functions called within:
37. printOpeningMenu(line 557)
38. printHelpScreen
39. Called from:
40. main(line 38)
41. printHelpScreen(577, line 591, line 605, line 614)
42. Functions called within:
43. printHelpScreen(line 577, line 591, line 605, line 614)
44. printOpeningMenu(line 619)

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