Project2

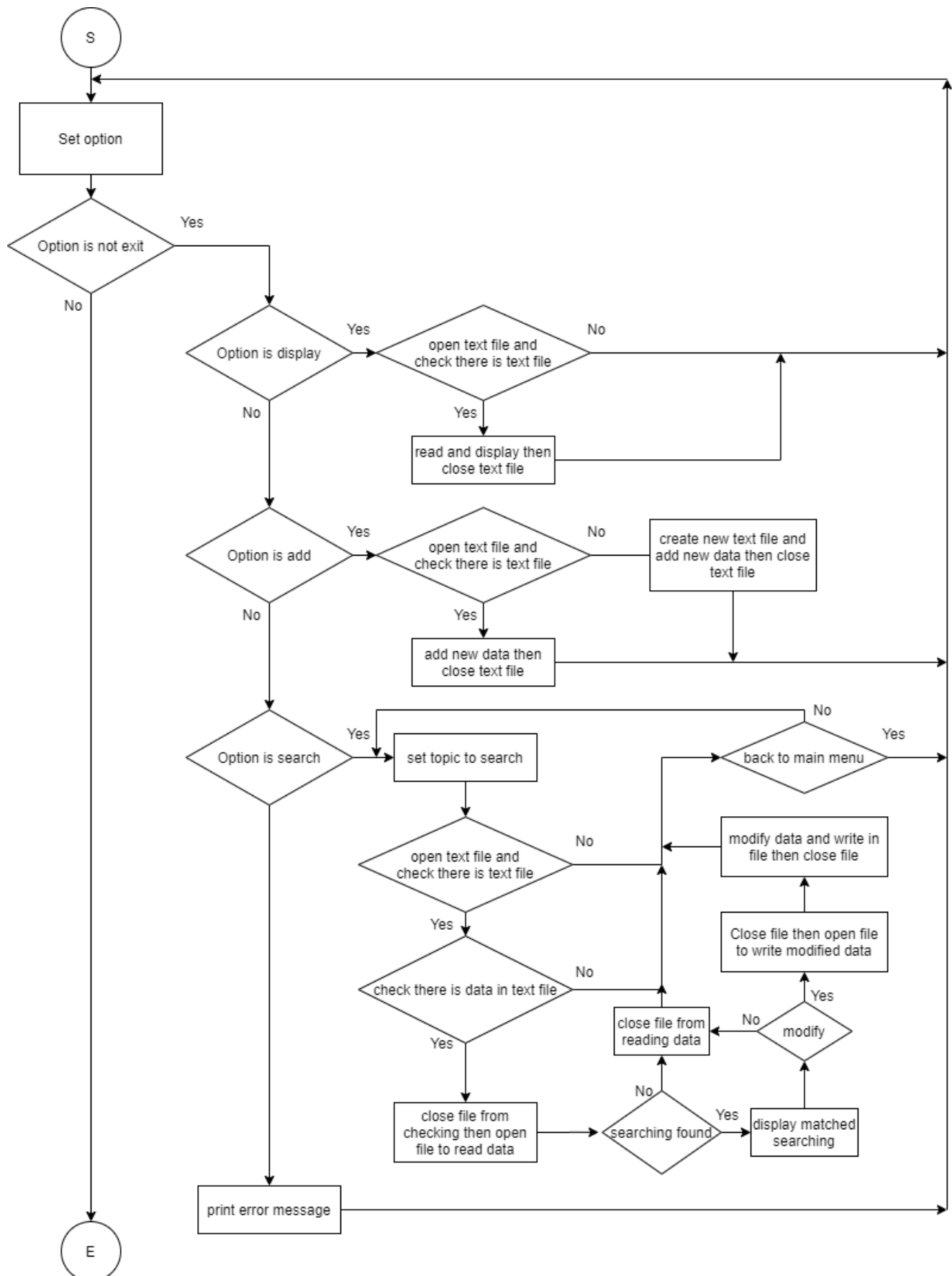# Problem10

CPE Student Database

Created by Nattapong Saengarunvong (Milo)

ID: 63070503415

Flowchart showing the overall program logic

S

Set option

Option is not exit — Yes

No

Option is display — Yes → open text file and check there is text file — No

No

Yes → read and display then close text file

Option is add — Yes → open text file and check there is text file — No → create new text file and add new data then close text file

No

Yes → add new data then close text file

Option is search — Yes → set topic to search

No

back to main menu — No / Yes

open text file and check there is text file — No → modify data and write in file then close file

Yes

Close file then open file to write modified data

check there is data in text file — No

Yes

close file from reading data — No → modify — Yes

close file from checking then open file to read data → searching found — No / Yes → display matched searching

print error message

E

Module table

Module name	General Description	Functions
mainMenu.c	User interface of the program	main
display.c	Show all current database	showDatabase
addRecord.c	Add data of 1 CPE student	addID addName addBirthday addHomeProvince addGPA addGender
search.c	Search student in current database	searchID searchHomeProvince
modify.c	Modify data in current database	modifyMenu modifyID modifyName modifyBirthday modifyHomeprovince modifyGPA modifyGender
validate.c	Gather functions that validate each data	validateID checkAllDigits checkMiddleID checkLastID checkFrontID chechProgramID printErrorID validateName checkTitle checkNameLength checkAlphabet printErrorName properName validateBirthday checkAllnumber checkDateMonthYear checkMonthMax30Day checkFuture printErrorBirthday

Module name	General Description	Functions
		validateHomeProvince
		checkInterStudent
		checkthaiStudent
		checkDelimiter
		checkS
		checkNumberCode
		printErrorHomeProvince
		validateGPA
		checkNotNumber
		checkDecimalPoint
		checkRangeGPA
		printfErrorGPA
		validateGender
		checkGenderAlphabet
		checkGender
		printErrorGender
dateFunctions.c	Parse, check, and manipulate dates	isLeapYear
		yearDayDifference
		yearDay
		checkDate
		dateDifference
		dateToday
		dateCompare

explanation of the structure of my database file

The structure of my database file is built in text file, and each person has an area of their data in each 1 line. It means that when I count the lines of the text file, a number of lines is equal to the number of the people in the current database. So, I can use this format to know how many people in the text file ,then use a number of the lines to allocate a variable to read data in the file. I can do it in 1 person with in 1 line because each data dose not have a space bar from a user. If I had a data like that, I would have to store that data in 1 whole line ,so the data of 1 person will be more than 1 line.

The pattern of the data in each person, or each line is that each of the data will be separate by a one single space. Such as

```
63070503415 Mr. Nattapong Saengarunvong 18/07/2545 TH-15 3.850000 M
63070503406 Mr. Chayut Surathachaipong 15/05/2545 TH-90 3.950000 M
63070503409 Mr. Seiya Tajima 12/01/2544 IN 3.50 M
59070503415 Miss Julia July 15/12/2540 IN 3.99 F
55070501025 Mrs. Jane Helen 10/01/2538 IN 2.59 O
```

Even if there is 1 data that user inserts with a spacebar,title name, and surname, but I know that it has 2 space bar, so when I get the data, I set to read it by "%s %s %s", so it will read 3 strings. When I read data from file, it will be the same which is "%s %s %s".

But if a data such as username can have spacebar as much as a user want. When I get the data, I do not know how

many space user type. So, I do not how many %s should have too. Then it should use "%[^\n]" to get a data to a file, and to read from a file. But these data must be separate to their 1 line.