

HW_7 (a,b) - (2 parts)

HW_7a - Functions – Pass parameters by reference - Student Record

- Create a new project and name it: **Student_Record**
- Write a program that produces the output shown, based on the following information.

```
/* OUTPUT
```

```
Enter a student record:
ID: 12345
NAME: Tom Lee
GPA: 3.5
```

} ← **getRecord()** function

```
---- screen clears ----
```

```
STUDENT RECORD

ID:      12345
NAME:    Tom Lee
GPA:     3.5
```

} ← **displayRecord()** function

```
Press any key to continue . . . */
```

- The program has three variables: **id**, **name**, and **gpa**.
- The following 2 functions are called from *main()*.
 - **getRecord** - This function prompts the user to enter a student record. (see output)
 - A record consists of a student's ID, name, and GPA.
 - The function prompts the user to enter a student record.
 - The user enters a student's ID, name, and GPA.
 - The user's inputs are read and assigned to the variables declared in main.
 - Therefore, addresses of all three variables must be passed as parameters to the function. (pass by reference)
 - The function is void-returning.
 - **displayRecord** - This function displays a student record. (see output)
 - The function is void-returning (which is often the case with 'display' functions).
 - Based on the output, what parameters are required for the function to do its job?
 - In other words, if the function must display a student's ID, name, and GPA, what must be passed to the function?

- Because this function simply displays information, do the parameters need to be passed by reference?

HW 7b

Write a program that produces the following output:

```
/* output
Enter your ID:  tommy
Enter your PW:  12345
Valid.    */
```

1.) This program reads a file containing an ID and PW.

First create a text file in your working directory named: *login.txt*

- The file should contain an ID and PW, look like this:

```
tommy
12345          (Don't press enter after 12345)
```

2.) In your program, call a function named: *getLogin*

- This void-returning function prompts the user to enter an ID and PW.
- The values entered by the user are read into variables, *id* and *pw*, which were arguments passed by reference to the function.

<u>Output:</u>	Enter your ID: tommy	← // user enters tommy
	Enter your PW: 12345	← // user enters 12345

3.) Then call a function named: *validateLogin*

- This is a bool-returning function
- Pass the ID and PW as arguments (the values entered by the user in the *getLogin()* function).
- In this function, declare an input file object named: *inFile*
- Open the *login.txt* file and read in the ID and PW from the file.
- Compare the ID and PW from the file to the ID and PW arguments passed from *main()*.
- If they are the same, return true, otherwise, return false.

4.) Lastly, call a function named: *showResult*

- Pass the bool value as a parameter to the function.
- If the argument value is true, the output is: *Valid*
- Otherwise, the output is: *Invalid*