C Programming

Programming Homework #1 (PHW1)
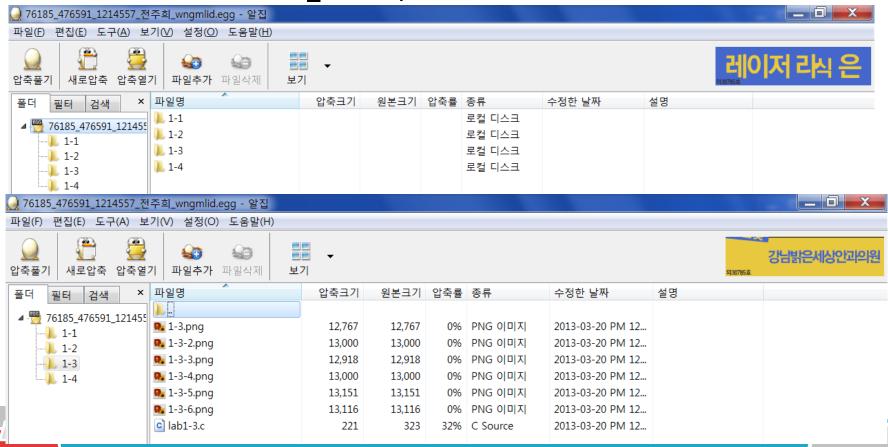
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Programming Homework

▶ Capture Output Screen & save
- ▶ Alt (Fn)+PrintScrn or Open 그림판 and Ctrl+V
- ▶ 캡처 도구
  - ▶ Windows로고키 + Shift키 + S
  - ▶ Windows로고키 + R, snippingtool (엔터)

▶ Save Source File
- ▶ PHW1-1.cpp, PHW1-2.cpp, PHW1-3.cpp….

▶ Make Zip Folder
- ▶ Output screen image
- ▶ Source file (*.cpp)

▶ Submit the Zipped Folder to cyber campus

Make It Easy to See

- 1 Named Folder per Problem
  - source code and screen captures
- File name is "StudentID_이름.zip"

Homework 1

- Due date?
  - Next Monday midnight -5min (-3/27, 23:55)
- How to submit?
  - Submit the Zipped Folder to CyberCampus
- What to submit?
  - Source file, screen capture result
- How to grade?
  - (Run without error) && (result is correct) = full points
  - If not, you will get partial points.

○ ○ ○ Homework 1-1 (10 points) ○ ○ ○

▶ **Textbook exercise #2.17**

2.17 *(Final velocity)* Write a program that asks the user to enter the initial velocity and acceleration of an object, and the time that has elapsed, places them in the variables u, a, and t, and prints the final velocity, v, and distance traversed, s, using the following equations.

a) $v = u + at$

use float type

b) $s = ut + \frac{1}{2}at^2$

Homework 1-2 (10 points)

▶ **Textbook exercise #2.30**

2.30 Write a program that inputs one five-digit number, separates the number into its individual digits and prints the digits separated from one another by three spaces each. [*Hint:* Use combinations of integer division and the remainder operation.] For example, if the user types in 42139, the program should print

```
4   2   1   3   9
```

○ ○ ○ Homework 1-3 (10 points) ○ ○ ○

2.32 *(Body Mass Index Calculator)* We introduced the body mass index (BMI) calculator in Exercise 1.11. The formulas for calculating BMI are

$$BMI = \frac{weightInPounds \times 703}{heightInInches \times heightInInches}$$

or

$$BMI = \frac{weightInKilograms}{heightInMeters \times heightInMeters}$$

Create a BMI calculator application that reads the user's weight in pounds and height in inches (or, if you prefer, the user's weight in kilograms and height in meters), then calculates and displays the user's body mass index. Also, the application should display the following information from the Department of Health and Human Services/National Institutes of Health so the user can evaluate his/her BMI:

```
BMI VALUES
Underweight:  less than 18.5
Normal:       between 18.5 and 24.9
Overweight:   between 25 and 29.9
Obese:        30 or greater
```

use float type

[*Note:* In this chapter, you learned to use the int type to represent whole numbers. The BMI calculations when done with int values will both produce whole-number results. In Chapter 3 you'll learn to use the double type to represent numbers with decimal points. When the BMI calculations are performed with doubles, they'll both produce numbers with decimal points—these are called "floating-point" numbers.]