

Two types of files should be submitted on the blackboard, **.pdf, .cs (no hand written)**.

1. Submit your answers in **hw2.pdf** for the following exercise problems from the textbook.

5.1, 5.3, 6.1.

2. Submit your source code programs in ***.cs files** for the following exercise problems from the textbook (**each program has an individual .cs file**)

5.21, 6.18, 6.19

5.1 Fill in the blanks in each of the following statements (10 points):

- b) The if else statement is used to execute one action when a condition is true and another when that condition is false.
- c) Repeating a set of instructions a specific number of times is called counter-controlled iteration.
- e) The sequence structure is built into C#—by default, statements execute in the order in which they appear.
- g) C# requires all variables to have a(n) identifier
- h) If the increment operator is to prefix a variable, the variable is incremented by 1 and its new value is used in the expression.

5.3. Write four different C# statements that each add 1 to int variable x (10 points).

5.21 (Find the Largest Number) (20 points) ++x; x++; x = x + 1; x += 1; The process of finding the maximum value (i.e., the largest of a group of values) is used frequently in computer applications. For example, an app that determines the winner of a sales contest would input the number of units sold by each salesperson. The salesperson who sells the most units wins the contest. Write pseudocode, then a C# app that inputs a series of 10 integers, then determines and displays the largest integer. Your app should use at least

the following three variables:

- a) counter: A counter to count to 10 (i.e., to keep track of how many numbers have been input and to determine when all 10 numbers have been processed).
- b) number: The integer most recently input by the user.
- c) largest: The largest number found so far.

6.1 Fill in the blanks in each of the following statements (20 points):

- a) Typically, for statements are used for counter-controlled iteration and while statements are used for sentinel-controlled iteration.
- b) The do...while statement tests the loop-continuation condition after executing the

loop's body; therefore, the body always executes at least once.

c) The switch statement selects among multiple actions based on the possible values of an integer variable or expression.

d) The break statement, when executed in an iteration statement, skips the remaining statements in the loop body and proceeds with the next iteration of the loop.

e) The && operator can be used to ensure that two conditions are both true before choosing a certain path of execution.

f) If the loop-continuation condition in a for header is initially false, the for statement's body does not execute.

g) Methods that perform common tasks and cannot be called on objects are called static methods.

6.18 (Modified Compound-Interest Program) (20 points)

In the future, you may work with other programming languages that do not have a type like decimal which supports precise monetary calculations. In those languages, you should perform such calculations using integers. Modify the app in Fig. 6.6 to use only integers to calculate the compound interest. Treat all monetary amounts as integral numbers of pennies. Then break the result into its dollars and cents portions by using the division and remainder operations, respectively. Insert a period between the dollars and the cents portions when you display the results.

6.19 Assume that $i = 1$, $j = 2$, $k = 3$ and $m = 2$. What does each of the following statements display? (20 points)

c) `Console.WriteLine((i >= 1) && (j < 4));`

d) `Console.WriteLine((m <= 99) & (k < m));`

e) `Console.WriteLine((j >= i) || (k == m));`

f) `Console.WriteLine((k + m < j) | (3 - j >= k));`

g) `Console.WriteLine(!(k > m));`