**Quiz 7**

**COMP 4040**

**Fall 2019**

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1. **[30 pts]** Consider the following program written in C syntax. Transform it to C# and test it using arguments with **passed by value**, **passed by reference** (use ref keyword) and **passed by value-result** (use out keyword).

void swap(int a, int b){

int temp;

temp = a;

a = b;

b = temp;

}

Passed by Value

public static void swap(int a, int b){

int temp;

temp = a;

a = b;

b = temp;

}

Passed by Reference

public static void swap(ref int a, ref int b){

int temp;

temp = a;

a = b;

b = temp;

}

Passed by value-result

Public static void swap(out int a, out int b){

Int temp;

temp = a;

a = b;

b = temp;

}

***Guideline:***

*Use the ref keyword for pass by reference, and the out keyword for the pass by value-result.*

1. **[30 pts]** Using generics in C#, re-write the swap function above. Test the function by using two different data types.

Public static T swap<T>(T a, T b){

T temp;

Temp = a;

a = b;

b = temp;

}

1. **[40 pts]** Write a Python program that asks the user to enter five test scores. The program should display a letter grade for each score and the average test score. Write the following functions in the program:

* calc\_average—This function should accept five test scores as arguments (formal parameters) and return the average of the scores.
* determine\_grade—This function should accept a test score as an argument (formal parameter) and return a letter grade for the score based on the following grading scale:

|  |  |
| --- | --- |
| Score | Letter Grade |
| 90–100 | A |
| 80–89 | B |
| 70–79 | C |
| 60–69 | D |
| Below 60 | F |

* Write and call functions calc\_average and determine\_grade using keyword parameters.