**WEEK 2 – Review Questions and**

**Programming Challenges Handout**

**Chapter: 1**

**Review Questions:**

**Find the Error**

1. The following pseudocode algorithm has an error. It is supposed to use values input for a rectangular room’s length and width to calculate and display its area.

**Find the error:**

*area = width* × *length.*

*Display "What is the room's width?".*

*Input width.*

*Display "What is the room's length?".*

*Input length.*

*Display area.*

**Soft Skills**

Before a programmer can design a program he or she must have some basic knowledge about the domain, or area, the program will deal with and must understand exactly what it is that the client wants the program to do. Otherwise the final program may not work correctly or may not meet the client’s needs.

1. Suppose one of your friends, who paints the insides of houses, has asked you to develop a program that determines and displays how much paint is needed to paint a room if the length and width of the room is input. What information are you lacking that you need to write this program? Write at least three questions that you would need to ask your friend before starting the project.

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**Chapter: 2**

**Review Questions:**

1. Write assignment statements that perform the following operations with int variable i, double variables d1 and d2, and char variable c.

A) Add 2 to d1 and store the result in d2.

B) Multiply d2 times 4 and store the result in d1.

C) Store the character 'K' in c.

D) Store the ASCII code for the character 'K' in i.

E) Subtract 1 from i and store the result back in i.

1. **Predict the Output:**

A) #include <iostream>

using namespace std;

int main()

{

cout << "Be careful!\n";

cout << "This might/n be a trick ";

cout << "question.\n";

return 0;

}

B) #include <iostream>

using namespace std;

int main()

{

int a, x = 23;

a = x % 2;

cout << x << endl << a << endl;

return 0;

**}**

**Programming Challenges:**

**Chapter: 2**

1. **Restaurant Bill Program**

Write a program that computes the tax and tip on a restaurant bill for a patron with a $44.50 meal charge. The tax should be 6.75 percent of the meal cost. The tip should be 15 percent of the total after adding the tax. Display the meal cost, tax amount, tip amount, and total bill on the screen.

**In-Class Lab – Interview Program**

You will be working on which has its own link.