**WEEK 9 – Review Questions and**

**Programming Challenges Handout**

**Chapter: 5**

**Review Questions:**

1. Write a nested loop that displays 10 rows of ‘#’ characters. There should be 15‘#’characters in each row.

for(int i = 0; i < 10; i++){

for(int p = 0; p < 15; p++){

cout << “\*”;

}

cout << “\n”;

}

1. **Rewrite the following code, converting the while loop to a do-while loop:**

char doAgain = 'y';

int sum = 0;

cout << "This code will increment sum 1 or more times.\n";

while ((doAgain == 'y') || (doAgain == 'Y'))

{

sum++;

cout << "Sum has been incremented. Increment it again(y/n)? ";

cin >> doAgain;

}

cout << "Sum was incremented " << sum << " times.\n";

do

{

sum++;

cout << "Sum has been incremented. Increment it again(y/n)? ";

cin >> doAgain;

} while ((doAgain == 'y') || (doAgain == 'Y'));

1. **Convert the following while loop to a for loop:**

int count = 0;

while (count < 50)

{

cout << "count is " << count << endl;

count++;

}

for(int i = 0; i < 50; i++){

cout << “count is “ << count << endl;

count++;

}

**Programming Challenges:**

1. **Calories Burned**

Running on a particular treadmill you burn 3.9 calories per minute. Write a program that uses a loop to display the number of calories burned after 10, 15, 20, 25, and 30 minutes.

1. **Membership Fees Increase**

A country club, which currently charges $2500 per year for membership, has announced it will increase its membership fee by 4% each year for the next six years. Write a program that uses a loop to display the projected rates for the next six years.