Mariya Eggensperger

Prof. Pam Wiese

C++ Programming I

Fall 2015

Loops Written Assignment

**1. How many times does the following loop execute, and what is its output?**

**count = 1;**

while (count <= 12)

{

cout << count << endl;

count++;

}

The loop executes 12 times starting at one; the output is:



**2. How many times does the following loop execute, and what is its output?**

int count;

for (count = 0; count <= 11; count++)

{

cout << count << ", ";

count++;

}

The loop executes 6 times; the output is:



**3. How many times does the following loop execute, and what is its output?**

count = 1;

do

{

cout << "$ " << count << ".00" << endl;

count++;

} while (count < 13);

The loop executes 12 times; the output is in dollars:



**4. The following code segment is supposed to output the average of the 5 numbers input by the user. Instead, it simply outputs the sum of all the numbers. What's wrong with the code segment? Change the code so that it works correctly.**

sum = 0;

count = 5;

while (count > 0)

{

numbers\_entered = 1;

cin >> number;

sum += number;

count--;

}

answer = sum / numbers\_entered;

cout << answer << endl;

// CORRECTED CODE:

sum = 0;

count = 5;

while (count > 0)

{

numbers\_entered = 1;

cin >> number;

sum += number;

count--;

}

answer = sum / numbers\_entered;

cout << answer << endl;

int numbers\_entered=0;

int number;

float answer;

while (count > 0)

{

cout << "Input an integer: ";

numbers\_entered++;

cin >> number;

sum += number;

count--;

}

answer = (float)sum / (float)numbers\_entered;

//float integers for fractional value averages

cout << answer << endl;

return 0;

}



**5. How many times does the following loop execute, and what is its output?**

int x;

int y = 0;

for (x = 1; x <= 10; x++)

{

y = x + y;

cout << x << '\t' << y << endl;

}

The loops executes 20 times; the output is:



**6. How many times does the following loop execute, and what is its output?**

int x = 10;

int y = 0;

do

{

x = x \* y;

cout << x << endl;

} while (x < 10);

The loop executes infinitely; the output is (\*the last zero flashes as if infinite):



**7. Write a code segment using a "for" loop that outputs the numbers from -10 to 10.**

#include <iostream>

using namespace std;

int main()

{

int count;

for (count=-10; count <=10; count++) // count is between -10 and 10 incremented

cout << count<< endl;

return 0;

}



**8. Write a code segment that asks a user to enter a number between 0 and 100, inclusive. The input should be done in a "do...while loop" that repeats if the user enters a value outside the requested range.**

#include <iostream>

using namespace std;

int main()

{

int num;

do

{

num <= 101;

cout<<"Enter an integer between 0 and 100 inclusive: \n";

cin >> num;

}

while (num>100 || num<0);

{

cout << "Thanks my intergalactic FIEND!";

}

return 0;

}



**9. Write a code segment that displays a chart of Fahrenheit and Celsius equivalents, from 0 to 100F. The values should appear in two columns, with column headers. Use a "for" loop.**

#include <iostream>

#include <iomanip> // set precision

using namespace std;

int main()

{

const int MAX\_FAHREN=100;

int celsius;

std::cout << std::setprecision(4) << celsius << '\n'; // std set precision

double fahren; // set precision

cout << endl; // print a blank line

cout << "DEGREES DEGREES\n"

<< "FAHRENHEIT CELCIUS\n"

<< "---------- -------\n";

for (int fahren=0; fahren<=MAX\_FAHREN; fahren++)

{

cout << setw(6) << fahren << " "

<< setw(6) << (fahren-32.0)/1.8 << " " << endl;

celsius=(fahren-32.0)/1.8; // equation to convert fahrenheit to celcius

}

return 0;

}

**/\* Please see code in Dev-C++ 5.11 to view the entire 100 fumctions in action. This picture is not comprehensive.\*/**

