**CIS 251 - Exam 2 – Programming in C++ (Control Structures)**

Fall Semester 2017

**Instructions**

* Click on the File tab on the upper left of the Word window. Select “Save As…” and navigate to your folder or USB. Save a private copy of this file in your personal directory with the filename

**CIS\_cpp\_T2\_firstname\_lastname.doc**

* Type in your answers for 1 – 10.
* (worth 2 points on your score)
  + Go to the top of MS Word window and click on the Insert tab.
  + Find the “Header and Footer” section.
  + Click on the Footer button (the middle of the three).
  + Go to the bottom of the menu and click on “Edit Footer”.
  + Your insertion mark will now be in the document footer.
  + Type the filename of this document as you named it above into the footer.
  + Save this file again.
  + (Ensure that this document and the program are complete before you upload, need to both at the same time to ‘Test 2 , Hands-on files’ in Canvas, )

***Identification/short answer*** (4 points each). There are ten questions in this section. Please answer all of them. I will count eight of the ten. You are required to answer at least eight of them to get the maximum points. You may choose to skip the others. **I will grade all ten questions you answer. If you get more than 8 correct, I will count the extra as bonus questions.**

1. A function from the <string> library that reads character input until it reaches a newline character, and then stores the characters in a variable of type string.

getline function

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write an if expression in code to check whether the variable test is between -10 and 10, excluding endpoints.

if(test>-10 && test<10) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the output of the following code? If there are spaces in the output, write them as <sp>. If there are newlines, write them as <cr>.

int num = 1;

while (num < 10)

{ cout << num << “ “;

num = num+2;

}

1<sp>3<sp>5<sp>7<sp>9<sp>

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write a *single* line of compilable, executable code to do each of the following.

Prompt the user to enter a number. End the prompt message with a colon. Leave the cursor positioned on the same line.

cout << “Type a number: “;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Output the remainder of 34678 divided by 487 to the console.

cout << 34678%487;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What, if anything, prints for each of the following statements? If nothing is sent to the console, write “nothing”. Assume that the variables have the following values assigned: *x* = 10, *y* = 20 and z = 3, and all are declared int.

6. cout << x + y + z/z; 31\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. cout << y % x - z \* x; -30\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. cout << x/y/z; 0\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. cout << “x = “ << x; x = 10\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. (multiple choice) Mark the best answer for the output of this regrettable piece of code.

if(6 < 3 < 2)

cout << “Hello”;

cout << “ There”;

1. Hello There (b) Hello (c) There (d) HelloThere

A

Programming (16 pts)

11. Download the programming assignment file from Canvas. Follow the instructions in the file. When you are finished, upload the \*.cpp, naming format  **firstname\_lastname\_test2.cpp** file along with the **CIS\_cpp\_T2\_firstname\_lastname.doc** to the “Test 2 hands-on files” assignment in Canvas.