**Name:**

**Computer Science I Assessment Quiz**

*This quiz is designed to measure what you have learned or remember from Computer Science I. Please work independently and answer each question to the best of your ability. Upload your answers into eCourses by class time on Friday, January 22nd.*

**I. Multiple Choice: Highlight the correct answer to each question.**

1. Which assignment statement could be used to store the letter A into the char variable named firstLetter?

**A)** firstLetter = "A";

**B)** firstLetter = A;

**C)** firstLetter = 'A';

**D)** a and c above

1. Assume a user provides the following input which consists of a person's first initial and last initial, separated by a blank space:

M H

Which of the following correctly inputs the person's initials into the char variables *firstInit* and *lastInit*?

**A)** cin >> firstInit >> lastInit;

**B)** cin >> firstInit >> ' ' >> lastInit;

**C)** cin >> firstInit >> lastInit >> endl;

**D)** lastInit << firstInit << cin;

**E)** a and c above

1. Which of the following C++ data types should be used to declare a variable to read in a person’s phone number in the format (XXX) XXX-XXXX (e.g., (713) 227-2312)?
   1. int
   2. double
   3. char
   4. float
   5. string
2. Which of the following is a valid input statement?

**A)** cin >> studentAge;

**B)** cin << studentAge;

**C)** studentAge >> cin;

**D)** studentAge << cin;

**E)** a and c above

1. Which of the following can be assigned to a char variable? \_\_\_\_\_\_\_\_\_\_

A) 't'

**B)** '2'

**C)** '$'

**D)** a and b above

**E)** All of the above

1. Which of the following is the correct syntax to declare a C++ constant variable named PI and assign the value 3.14159 to it?
   1. constant double PI = 3.14159;
   2. const double PI = 3.14159;
   3. double const PI = 3.14159;
   4. const PI = 3.14159;
2. Which of the following is *not* a valid C++ variable identifier?

**A)** incomeTax2017

**B)** 2017Tax

**C)** Income-Tax

**D)** b and c above

**E)** a and c above

1. Given the variable constant declaration:

const int FACTOR = 95;

Which of the following would **not** be a valid use of the constant variable FACTOR in a C++ program?

**A)** cout << FACTOR \* 3;

**B)** FACTOR = 24;

**C)** cin >> FACTOR;

**D)** a and c above

**E)** b and c above

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | After execution of the following code, what will be the value of angle if the input value is **5**?  cin >> angle; **//assume user types in 5**  if (angle >= 5)  angle = angle + 15;  if (angle > 2)  angle = angle + 5; | | | | |
| **A)** | | | 25 | |
| **B)** | | | 5 | |
| **C)** | | | 10 | |
| **D)** | | | 20 | |
| 1. Given the following line of input data:   Dr. Jamie White  What value is stored into the variable name by the following code? (name is of type string)  getline(cin, name); | | | | | |
| **A)** | Dr. | | | |
| **B)** | Dr. Jamie White | | | |
| **C)** | Jamie | | | |
| **D)** | Jamie White | | | |

|  |  |  |
| --- | --- | --- |
| 1. If the int variables num1 and num2 contain the values 5 and 4, respectively, then the value of the expression float(num1/num2) is: | | |
| **A)** | 0.8 | |
| **B)** | 0.0 | |
| **C)** | 1.0 | |
| **D)** | 0 | |
| **E)** | 1.25 | |

**II. Answer the following problems in the space provided. *Use a blue font so that your answer stands out.***

1. Given the following program fragment:

int a = 5;

int b = 10;

What is the value of **each** of the following expressions?

* a + b % 3;
* a / b \* a + 1;
* b % 6 \* a

1. Given the following C++ code fragment:

string name1 = "MacPherson";

string name2 = "Macy";

Would the conditional expression **(name1 < name2)** evaluate to **true or false**?

1. What is ***printed*** by the following code fragment if the input value is 3?

int num;

int alpha = 10;

cin >> num; **//assume user enters 3**

switch (num)

{

case 3:

case 4:

alpha = alpha + 2;

break;

case 8:

alpha = alpha + 3;

break;

default:

alpha = alpha + 4;

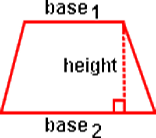
}

cout << alpha; 12

**III. Programming Problems (put your program below or upload the file)**

1. Write an interactive C++ program that will calculate the area of a trapezoid. A trapezoid is a 4-sided figure with one pair of parallel sides. The program should prompt for and read in the values for the height of the trapezoid and the values for each of the bases. The program should print the height, bases, and area on separate output lines with identifying text.

**Formula:** Area of trapezoid = 1/2\*(base1+base2)\*height



1. Write an interactive C++ program that reads in any three whole numbers. The program should determine and print the largest of the three numbers. ***Note: You can assume all three input numbers are different.***