

Final Exam: Wednesday, December 19th, You will have 2 ½ hours to complete

One sheet of notes, 8.5 x 11, two sided, hand-written

70 Multiple Choice Questions and one write the output for a program. (Hint: Nested For Loops)

1. List all Bit-wise operators.
2. List all Logical operators.
3. List all Compound Assignment operators.
4. List Conditional operators.
5. `int nX=10;`
`cout << nX += 4;`
6. `int nX=10;`
`cout << nX %= 3;`
7. `int nX=10;`
`cout << nX & 3;`
8. `int nX=10;`
`cout << (nX<<3);`
9. `int nX=10;`
`cout << (~nX);`
10. Functions
 - a) Actual and formal parameter?
 - b) Where is each located in a program?
 - c) Understand Pass by Value
 - d) Understand Pass by Reference
 - e) Return Values
 - f) `/* In */ /* InOut */ /* Out */`
 - g) Valid Prototypes
 - h) Understand call, definition, prototype
 - i) local, global, static, visibility, lifetime
11. Control Structures
 - a) case
 - b) switch
 - c) do while
 - d) for

12. Arrays
 - a) Declaration
 - b) Range of elements
 - c) Bounds Checking?
 - d) Accessing
 - e) Use with loops
 - f) Multi Dimensional
13. Strings
 - a) Type?
 - b) end marker?
 - c) How to copy strings
 - d) Initializing strings
14. Structures
 - a) Defining and Declaring
 - b) Accessing using dot operator
 - c) Arrays of
 - d) Identify errors in some code
 - e) Hierarchical records

Which line of the following program fragment contains a syntax error?

```
struct StatType           // Line 1
{                          // Line 2
float height             // Line 3
int weight              // Line 4
}                         // Line 5
StatType stats[100];    // Line 6
```

CMIS 140 - Final Exam Answer Sheet

(150 Points)

NAME _____

Use the following Structure for Questions:

What is the type of myDisk.brand?

What is the type of myDisk.brand.company[2]?

If a char value occupies one byte of memory and a float value occupies four bytes, how many bytes of memory does myDisk occupy?

```
struct BrandInfo
{
    char company[40];
    char model [20];
};
struct DiskType
{
    BrandInfo brand;
    float capacity;
};
DiskType myDisk;
```

Consider the following C++ class declarations for Questions:

How many public members does an object of class Y have?

How many private members does an object of class Y have?

Which function(s) may legally be invoked by a client of class Y?

```
class X
{
public:
    void Func1();
    void Func2();
private:
    int m;
};

class Y : public X
{
public:
    void Func3();
private:
    float f;
};
```

Relationship in which data members of one class contains an object of another class:

Derived class

Inheritance

Base class

Composition

Sub-Class