COP4020 Homework Assignment 6

State the question above your answer/solution.

1. Textbook exercise 3.5 (assuming integer division rounds down, thus x/:=2 with x=9 gives x=4)

2. Textbook exercise 3.9 (assuming this code occurs in a function or method body, first determine where the variables are stored)

3. Consider the following C++ program fragment:

```
myClass A;
int main()
{ …
  myClass *B = new myClass();
  B->data = A.data;
  myClass A;
  A.data = B->data;
  …
  delete B;
  …
}
```

   a. What is the storage allocation (static/stack/dynamic) for the A and B objects?

   b. Draw the timeline of the binding lifetimes and object lifetimes of A and B.

4. Consider the following C program:

```
#include <stdio.h>
int main()
{ int a = 2, x;
  { int b = 1;
    printf("b=%d\n", b);
  }
  { int c;
    printf("c=%d\n", c);
  }
  printf("x[1]=%d\n", (&x)[1]);
}
```

   a. Compile and run on linprog. What are the values printed? Explain why the value of c is not "random". Explain why x[1] is not "random".

   b. Can you find a non-Linux platform on which the value of x[1] is different? Hint: try MSVC++, GCC or CC on Solaris, GCC on Mac OS X, …

5. Textbook exercise 3.17