CSCI 2170 Homework 3 (Due beginning of class, Thursday, February 23rd)
40 points   **Name**_____
Use additional paper when needed.

1. Read chapter 2 on Recursion

2. Trace the execution of the following program as shown in class. Write the final output of the program:

```
#include <iostream>
using namespace std;
void mystery (int n);

int main()
{
        cout << mystery(5) << endl;
        return 0;
}

void mystery (int n)
{
        if (n <= 1)
                return   n;
        else
        {
                return (mystery(n-1)+mystery(n-2));
        }
}
```

3. Given:
        array A:

2	5	10	15	23	44	47	53	77	86

Trace the execution of the recursive BinarySearch function when it is called with the following function call:
   (1) BinarySearch(A, 0, 9, 10, found, location)
   (2) BinarySearch(A, 0, 9, 25, found, location)

4. Write a void *recursive* function **WriteBackwards** that has one parameter which is a positive integer. When called, the function writes its argument to the screen backward. That is, if the argument is 1234, it outputs the following to the screen:
   4321

   ```
   void WriteBackwards(int number)
   {
        ….
   }
   ```