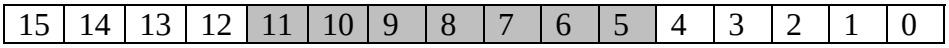
COMP370 Introduction to Computer Architecture

Assignment due Monday, April 20, 2009

Write the following programs in Intel assembler. Email the source code to williams@ncat.edu.

1. Write a program that copies bits 5 through 11 (where the right most or least significant bit is bit 0) of an integer and puts them into a char variable.



2. Compute the factorial (n!) of an integer.

```
int fac, n;

cout << "Enter a number >";
cin >> n;
_asm {
     // compute n! in assembler
}
cout << "The factorial is " << fac << endl;
```

3. Compute the square root of an integer using the following algorithm.

```
int good, better, number;

cout << "Enter a number >";
cin >> number;
_asm {      // write the following in assembler
                    good = number;
                    better = good;
                    do {
                          good = better;
                          better = (good + number/good) / 2;
                    }while (good != better);
}
cout << "The square root is " << better << endl;
```