Name: Id#

COE 301/ICS 233, Term 161

Computer Architecture & Assembly Language

Quiz# 3

Date: Tuesday, Nov. 22, 2016

## **Q1.** A recursive procedure **TH**(N) returns 1+2\***TH**(N-1) for N >1, 1 if N=1, and zero otherwise. This is called Tower of Hanoi. **TH**(N) is defined as follows:

int TH(int N) {

if (N <= 0) return 0;

else if (N=1) return 1;

else return (1 + 2\*TH(N-1));

}

Assume TH receives its argument N in register $a0 and return its results in $v0. The above procedure is called from some Main program, which needs not to be implemented here. Write a minimal MIPS program for the above procedure.