**CS 140 - LAB 7 – Arrays**

***Remember, labs are not accepted late!***

**Lab 7**

The game of Nim is played with three piles of stones. There are three stones in the first pile, five stones in the second, and eight stones in the third. Two players alternate taking as many stones as they like from any one pile. Play continues until someone is forced to take the last stone. The person taking the last stone loses. Write a program that permits two people to play the game of Nim using an array to keep track of the number of stones in each pile. Save as **nim.cpp**

#include <iostream>

#include <string>

using namespace std;

void printRocks(int piles[3]);

int main()

{

string player1, player2;

int pile=0, rocks=0, initPile=3, count = 0;

bool flag = false;

int piles[3];

string players[2];

cout << "Player 1, please enter your name ";

cin >> players[0];

cout << "Player 2, please enter your name ";

cin >> players[1];

for (int i =0; i < 3; i++)

{

piles[i] = initPile;

initPile = initPile + 2 + i;

}

printRocks(piles);

do

{

if ( piles[0] > 0 || piles[1] > 0 || piles[2] > 0)

{

cout << players[count % 2] << " its your turn";

cout << endl << "From pile: " ;

cin >> pile;

cout << endl << "Num of rocks: ";

cin >> rocks;

//ADD CODE HERE TO DEDUCT THE ROCKS FROM

//THE CHOSEN PILE

printRocks(piles);

count = count + 1;

}

flag = false;

}while(piles[0] > 0 || piles[1] > 0 || piles[2] > 0);

cout << players[count % 2] << " is the winner" << endl;

return 0;

}

void printRocks (int piles[3])

{

//ADD CODE HERE TO PRINT THE PILES

}