CS 161
Intro to CS I

Functions: Pass by Reference, Overloading, and Default Args
Chap. 4.1-4.2
Revisit Overload/Default Args

• What is the difference?
• Let’s look at pwr() again...
#include <iostream>

using std::cout;
using std::endl;

//int pwr(int, int n=1);  //Example of default args
double pwr(double, double);  //Example of overloading

int main() {
    int base=2, expn=8;
    double dbase=2.2, dexp=8.0;

    //cout << "The power function: " << pwr(base, expn) << endl;
    //cout << "The power function: " << pwr(base) << endl;
    cout << "The power function: " << pwr(dbase) << endl;
    //cout << "Pow with int and double: " << pwr(2, 2.2) << endl;
    return 0;
}

double pwr(double x, double n = 1) {
    double num=1.0;
    8,0-1
}
void swap(int, int);
int main() {
    int a=5, b=10;
    swap(a, b);
    cout << “a:” << a << “b:” << b;
}
void swap(int x, int y) {
    int temp = x;
    x = y;
    y = temp;
}
• What if we didn’t have temp?
void swap(int &, int &);
int main() {
    int a=5, b=10;
    swap(a, b);
    cout << "a: " << a << " b: " << b;
}
void swap(int &x, int &y) {
    int temp = x;
    x = y;
    y = temp;
}
#include <iostream>

void check_denom(float &y){
    std::cout << "Address of ref: " << &y << std::endl;
    while(y==0){
        std::cout << "Denominator can't be zero, enter new input: ";
        std::cin >> y;
    }
}

int main() {
    float x, y;
    std::cout << "Enter the numerator: ";
    std::cin >> x;
    std::cout << "Enter the denominator: ";
    std::cin >> y;
    std::cout << "Address of y: " << &y << std::endl;
    check_denom(y);
    std::cout << "x divided by y is: " << x/y << "\n";
    return 0;
}
Reading/Assignments

• Work on Assignment #3!!!
• Begin reviewing for test, Chap. 1 – 4.2
Quiz #4

• Get into groups of 4-5.
• What is the difference between `break`, `return`, and `exit()`?
• Discuss Assignment #3, design a solution, and provide your algorithm using pseudocode.
  • Where do you need a loop, and what kind of loop are you going to use?
  • How are you going to use decomposition?