**Homework 3**

1. Pointers

* Assigning the address of another variable
* Declared with an \* in front of the variable name
* Don't need to be initialized when they are declared
* Type-safe
* Can assigned one pointer to another pointer
* Can change target to point to
* Can be passed to functions

References

* Must initialized at the same time they are declared
* Act as an alias for another variable
* Declared with an & in front of the variable name
* Can't change target once assigned to the variable
* Can be passed to functions

1. Output for x: 15, y: 7
2. a. cout = 2

b. cout = 71

c. cout = 6

d. cout = iguana

1. **void** **DoubleLarger**(**int** x, **int** y, **int** z){

**if**(x > y || x > z){

x \*= 2;

}

**else** **if**(y > x || y > z){

y \*= 2;

}

**else** **if**(z > x || z > y){

z \*= 2;

}

}

**int** **main**(**int** argc, **char**\* argv[]){

**int** x = 5, y = 8, z= 7;

DoubleLarger(x, y, z);

cout << x << " " << y << " " << z << **endl**;

**return** 0;

}

1. **double** **SolveQuadratic**(**double** a, **double** b, **double** c, **double** \*result1, **double** \*result2){

**double** insideSqrt = (b\*b) - (4\*a\*c);

\*result1 = (-b + **sqrt**(insideSqrt)) / (2 \* a);

\*result2 = (-b - **sqrt**(insideSqrt)) / (2 \* a);

**double** solution;

**if** (insideSqrt > 0){

**if**(\*result1 == \*result2){

solution = 1;

}

**else** **if**(\*result1 != \*result2){

solution = 2;

}

}

**else**{

\*result1 = 0;

\*result2 = 0;

solution = 0;

}

**return** solution;

}

**int** **main**(**int** argc, **char**\* argv[]){

**double** solution1, solution2;

**double** x = 1, y = 0, z = 1;

**int** result = SolveQuadratic(x, y, z, &solution1, &solution2);

cout << "Number of Solutions: " << result;

cout << "\tSolution 1: " << solution1;

cout << "\tSolution 2: " << solution2 << **endl**;

**return** 0;

}