

## CECS 174 – Lecture 15 – Scope and Do-While Loops

**Scope** – Scope is the area in which a variable can be used or read. When a variable is declared from within the body of an if-statement or loop it can only be seen from within that block of code, it cannot be seen from outside. However, if it is declared outside of that block, it can be seen inside of the block.

**Example:**

```
int num = 0;
while (num == 1)
{
    int num = 3; //conflicts with prior declaration
    int value = 5;
}
while (num == 2)
{
    int value = 10; //does not conflict
}
```

**Do While Loop** – A do-while loop executes the statements inside of the brackets and then if the test condition is true the statements are executed again.

```
//initializer
do
{
    //statements
    //updater
}
while ( condition is true );
```

**Example:**

```
int num3 = 15;
do
{
    System.out.println("Number = " + num3);
    num3++;
}
while (num3 <= 10);
/* Output:
    Number = 15 */
```

By contrast, the same starting and ending conditions in a while loop would have resulted in the statement not being executed at all.

```
while (num3 <= 10)
{
    System.out.println("Number = " + num3);
    num3++;
}
```