

CIS 122

Homework 1 Review

Homework Review

- Almost all homework received
 - Everyone has finished parts 0, 1, 2
- Feedback tonight
 - Homework grades
 - Homework solutions
- Review right now
 - Parts 1 & 2

Homework Review - Part 1

```
def FtoC(Ftemp):
```

```
    """Converts temperature from Fahrenheit to Celsius"""
```

```
    Ctemp = (5.0/9.0) * (Ftemp - 32)
```

```
    return Ctemp
```

```
def CtoK(Ctemp):
```

```
    """Converts temperature from Celsius to Kelvin"""
```

```
    Ktemp = Ctemp + 273
```

```
    return Ktemp
```

Homework Review - Part 1

```
def FtoK(Ftemp):
```

```
    """Converts temperature from Fahrenheit to Kelvin"""
```

```
    Ctemp = (5.0/9.0) * (Ftemp - 32)
```

```
    Ktemp = Ctemp + 273
```

```
    return Ktemp
```

```
def FtoK(Ftemp):
```

```
    """Converts temperature from Fahrenheit to Kelvin"""
```

```
    Ctemp = FtoC(Ftemp)
```

```
    Ktemp = CtoK(Ctemp)
```

```
    return Ktemp
```

Homework Review - Part 2

```
def myMax(a,b):  
    """Return the larger of a and b"""  
    if a > b:  
        return a  
    else:  
        return b
```

Homework Review - Part 2

```
def myMax3(a,b,c):  
    """Return the largest of a, b, and c"""  
    if a > b and a > c:  
        return a  
    elif b > a and b > c:  
        return b  
    else:  
        return c
```

Homework Review - Part 2

```
def myMax3(a,b,c):  
    """Return the largest of a, b, and c"""  
    if a > b and a > c:  
        return a  
    elif b > a and b > c:  
        return b  
    else:  
        return c
```

```
def myMax3(a,b,c):  
    """Return the largest of a, b, and c"""  
    d = myMax(a,b)  
    e = myMax(c,d)  
    return e
```

Homework Review - Part 3

- Generally correct approach
- Small missed cases
 - Letters don't wrap around
 - Some letters don't wrap around
 - Non-letters do wrap around

Ironing out Bugs

- We all write buggy code
 - Easy to fix if we know what they are
 - How do we catch them?
- Testing code
 - I give you some test cases
 - Run known input through functions
 - Check output
- My test cases don't catch everything
 - Run tests of your own

Ironing out Bugs

- We can't check everything
 - That's a lot of input
 - Can we never be sure our code works?
- Technically no...
 - But we can be pretty sure
- Test smart
 - If one input works, similar inputs probably also work
 - Test different kinds of inputs
 - Try to cover all cases

Ironing out Bugs - myMax

- Three important cases
 - $a > b$
 - $a < b$
 - $a == b$
- Three test cases (at least)
 - `myMax(1,2)`
 - `myMax(2,1)`
 - `myMax(3,3)`

Ironing out Bugs - CaesarShift

- What cases should we test?
 - Come up with a test for each

Ironing Out Bugs

- Always check your edge cases
- If your function deals with numbers
 - Make sure it works for 0
- If your function deals with strings
 - Make sure it works on the empty string
- If your function works up to a specific bound
 - Check that bound

Ironing out Bugs

- I don't need to see your test cases
 - Don't need to print out results
 - Don't need to submit records
- If you've tested your code, it will be evident
 - Your code will work