

# CSc 110 Midterm 2 Cheat Sheet

```
def name (parameters) :
    statement(s)
    ...
    return expression
```

```
variable = type (input (prompt))
```

```
for name in range (start, stop + 1) :
    statement
    statement
    ...
    statement
```

```
if test:
    statement(s)
elif test:
    statement(s)
else:
    statement(s)
```

## Math functions

Function name	Description
<code>math.ceil (value)</code>	rounds up
<code>math.floor (value)</code>	rounds down
<code>math.log (value, base)</code>	logarithm
<code>math.sqrt (value)</code>	square root
<code>abs (value)</code>	absolute value
<code>min (value1, value2)</code>	smaller of two values
<code>max (value1, value2)</code>	larger of two values
<code>round (value, digits)</code>	rounds the value to a value with digits numbers after the decimal point

Constant	Description
<code>math.e</code>	2.7182818...
<code>math.pi</code>	3.1415926...

## Random

```
random.randint (min, max)
```

returns a random number between min and max inclusive

## File functions

```
fname = open (file_name) - opens a file
```

```
name = fname.read() - reads all of the text of fname into a string
```

```
name = fname.readlines() - reads the text of fname into a list where each line is its own element
```

```
name = str_name.split() - splits a string on whitespace
```

```
name = str_name.strip() - strips all whitespace off the beginning and end of the string
```

## String functions

Function	Description
<code>str.lower ()</code>	returns a new string with all lowercase letters
<code>str.upper ()</code>	returns a new string with all uppercase letters
<code>len (str)</code>	returns the length of the string

## List functions

List assignment: `name [index] = value`

List creation: `name = [value] * length`  
`name = [value, value, value, ..., value]`

List length: `len (name)`