

lec5

August 12, 2016

```
In [77]: #today we are going to cover while loops.  
        #While loops are very similar to for loops.  
        #To review, what does this print?  
        for x in range(5):  
            print x
```

0
1
2
3
4

```
In [86]: #How do I do the same thing in while loops  
        #while ....:  
            #do something  
        #the code indented in the next line after the while loop is only  
        #executed if the thing next to the while statement evaluates to True.  
  
        #Example  
        x=0  
        while True:  
            x += 1 #x=3  
            if x==3:  
                continue  
            print x  
            if x==5:  
                break  
        #what does this print?  
        #In this case, True is always True,  
        #so the while loop executes until we break.
```

1
2
4
5

```
In [88]: #Example
x=0
while x<=5:
    x += 1
    if x==3:
        continue
    print x
    #if x==5:
    #    break
```

```
1
2
4
5
6
```

```
In [91]: #what does this print?
y=0
x = []
while y <=5:
    print y          #y=4
    y += 1           #y=5
    x += [y]         #x=[1,2,3,4,5]
    print x

    #x += [y]
    print x
```

```
0
[1]
1
[1, 2]
2
[1, 2, 3]
3
[1, 2, 3, 4]
4
[1, 2, 3, 4, 5]
5
[1, 2, 3, 4, 5, 6]
[1, 2, 3, 4, 5, 6]
```

```
In [92]: #Example: Both of these code examples print
          #only the odd numbers between 0 and 5.
myList = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
for x in myList:
    if x > 5:
```

```

        break
    elif x%2 == 0:
        continue
    else:
        print x

```

1
3
5

In [93]: *# Example with while loop. What does this do?*

```

x=0
while True:
    if x > 5:
        break
    elif x%2 == 0:
        x += 1
        continue
    else:
        print x
    x += 1

```

1
3
5

In []: *# Example with while loop. What does this do?*

```

x=0
while True:
    if x > 5:
        break
    elif x%2 == 0:
        #x += 1 <---now what happens if I don't have this line?
        continue
    else:
        print x
    x += 1

```

*#You should always be careful when you use while loops.
#Because if you don't tell it when to stop, a while loop
#can go on forever.*

In []: *# Example with while loop. What does this do?*

```

x=0
while True:
    if x > 5:
        break

```

```
elif x%2 == 0:
    x += 1
    continue
else:
    print x
x += 1 #<---now what happens if I don't have this line?
```