

## Week 4 Exercise: Looping and Control Flow

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### Instructions

This assignment has two sections. The first section includes 5 short answer questions. The second part of the assignment is a coding exercise.

If you have any questions on how to start or if you get stuck, refer to the discussion board and ask your questions there. You are allowed to use your notes, lectures and the internet. Students can work together on the question portion and discuss the coding exercise. For the coding exercise, you are allowed to talk to other classmates but you cannot have the same code.

Once complete, please save your assignment as a PDF and submit it both to the online course [and tag](#) your instructor on Github.

### Short Answer (1 point each)

1. Lists can be ordered and changeable.
2. Lists are always sets of values. That is, a list can contain any type of object and the objects in a list do not even all have to be the same data type.
3. In your own words, describe “for loops” and “while loops” You can provide an example to explain your answer

A for loop has a defined range of iterations.

```
for x in range(6):
```

```
    print(x)
```

A while loop executes a condition until the condition proves to be false.

```
x = 2
```

```
while x < 7:
```

```
    print(x)
```

```
    x += 1.5
```

4. What does the command range () do in Python?

It returns a sequence of numbers that start at 0 and increase by 1 at default

5. In your own words, complete this sentence: “Iterables are lists, tuples, and sets; any object that can be iterated in a for loop.”

### Coding Exercise (5 points)

For this exercise, you will be required to write a code to give the following output.

15 55 75
150

Hint: Create a list and use both a for loop and if statements.

```
numbers = [15, 55, 75, 150, 175]
for x in numbers:
    if x == 175:
        break
    print(x)
```