Lesson 8: Lists – A Collection of Objects

1. What is a list in Python? Explain in words and provide an example.

Just like all those everyday lists, a list in Python is just a collection of things

2. Create a list of your favorite sports teams.

   a. Assign your list to a variable. Called "myTeams"

   b. Use the command print(myTeams) to confirm that your variable and your list are the same.

myTeams = ["Blue Jays", "Toronto FC", "Barcelona"]

print(myTeams)

3. Add a team to your list using "+".

   a. Verify that + can be used to add two lists

   b. Write you Python code below

myTeams = ["Blue Jays", "Toronto FC", "Barcelona"]

teams = ["Real Madrid"]

print(myTeams + teams)

4. Create a list containing your favorite colour, your favorite number, and the name of someone you know. Show how to write this list in Python code below.

```python
things = ["Blue", "10", "Sehaj"]

print(things)
```

5. Do Python lists have to contain elements that are all the same data type? Answer True / False.

The answers is false

Lesson 8: Lists – List Indexes

1. What is the value of myTeams[0]? (Assuming that you have created a list of your favorite sports teams in the previous questions.) Blue Jay value is 0

2. What is the list index of the last team in your list of favorite sports teams? Provide the Python code below.

```python
print (myteam[2])
```

3. Compare Python lists to Python strings.

a. How are lists and strings similar?

but they are not same and many people don't know the main difference between a string and a list in python. One simple difference between strings and lists is that lists can any type of data i.e. integers, characters, strings etc, while strings can only hold a set of characters

b. How are they different?

In Python programming, a list is created by placing all the items (elements) inside a square bracket [ ], separated by commas. A string in Python is a sequence of characters. It is a derived data type. Strings are immutable. This means that once defined, they cannot be changed.

4. In the tutorial, why does typing "fruit[3]" produce an error?

The end quotations are behind the bracket

Lesson 10: Loops – Counted Loops

1. Use a counted loop to print out your list of favorite sports teams. Provide your code below.

   a. What is the function of "in"

```python
for myTeams in ["Blue Jays", "Toronto FC", "Barcelona"]:

 print("choosen Team is", myTeams)
```

2. Compare Counted Loops to Conditional Loops.

a. How are they similar?

Conditional loops repeat until something happens (or as long as some condition is True). *Counting* loops repeat a certain number of times - they keep going until they get to the end of a list.

b. How are they different?

A conditional statement in Python is handled by if statements and we saw various other ways we can use conditional statements like if and else over here.

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