Lab Worksheet 8 Solutions

Problem 1: Using only list indexing and the string function `split()`, write code that extracts the weight (here the number 7) from the string `data` defined below, and print out the result. What is the type of your final result? Use python to find out.

```
In [1]: data_string = "height: 15; weight: 7; width: 5;"

        # here are two approaches for solving this question (although there are more wa
        ys!):

        ## One ##
        data2 = data_string.split(": ")
        weight = data2[2][0]
        print(weight, type(weight))

        ## Two ##
        data2 = data_string.split("; ")
        weight_raw = data2[1]
        weight = weight_raw.split(" ")[1]
        print(weight, type(weight))
```
```
7 <class 'str'>
7 <class 'str'>
```

Problem 2: Using only string indexing, write code that does each of the following. In each case, store the result in a new variable and print its contents.

- Extract the first 10 characters from the string `data_string`.
- Extract characters 27 to 52 (corresponding to the upper-case letters of the alphabet) from the string `data_string`.
- Extract characters 1 to 26 (corresponding to the lower-case letters of the alphabet) and characters 53 to 62 (corresponding to the numbers) from the string `data_string` and combine them into a single, new string that should look like this: "abcdefghijklmnopqrstuvwxyz0123456789"
- Replace the letter at position 5 in `data_string` (the lower-case e) with a captial X. Do **not** use the function `replace()`.
- Take the resulting string from the previous point and convert it all to upper case.

In [2]:
```python
data_string = "abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789"

# Extract the first 10 characters
print(data_string[:10])

# Extract characters 27-52
print(data_string[26:52])

# Extract characters 1-26 and 53-62
new = data_string[:26] + data_string[52:]
print(new)

# Replace e with X
new2 = data_string[:4] + "X" + data_string[5:]
print(new2)

# Turn the previous string to uppercase
print(new2.upper())
```

```
abcdefghij
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz0123456789
abcdXfghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
ABCDXFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
```