Introduction to Python

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**Homework Exercises: Variables, Indices**

**1. Write the code to:**

1. create a string and assign it to a variable

*x = “test string”*

1. Print a slice of the first four letters of the string

*print(x[0:4])*

**2. Write a program that asks what your favorite color is, and then outputs “Your favorite color is X.”**

*Color = input(“What is you favorite color? “)*

*Print(“Your favorite color is”, color)*

**3. Fill the table showing the values of the variables in this program after each statement is executed.**

| Command | Value of X | Value of Y | Value of swap |
| --- | --- | --- | --- |
| X = 1.0 | *1.0* | *Name error* | *Name error* |
| Y = 3.0 | *1.0* | *3.0* | *Name error* |
| swap = X | *1.0* | *3.0* | *1.0* |
| X = Y | *3.0* | *3.0* | *1.0* |
| Y = swap | *3.0* | *1.0* | *1.0* |

**4. If you assign a = 123, what happens if you try to get the second digit of a via a[1]?**

*Type error*

**5. What does the following program print?**

atom\_name = 'carbon'

print('atom\_name[1:3] is:', atom\_name[1:3])

*atom\_name[1:3] is: ar*

**6. Given the following string:**

species\_name = "Acacia buxifolia"

What would these expressions return?

1. species\_name[2:8]

*acia b*

1. species\_name[11:] (without a value after the colon)

*folia*

1. species\_name[:4] (without a value before the colon)

*Acac*

1. species\_name[11:-3]

*fo*

1. species\_name[-5:-3]

*fo*

What happens when you choose a stop value which is out of range? (i.e., try species\_name[0:20] or species\_name[:103])

*Prints full string: “Acacia buxifolia”*

**7. Given a list assigned to the variable buildings, as below, write the code to print how many letters there are in the second element of the list**

Buildings = [“Jolley”, “Eads”, “Seigle”, “Cupples”]

*print(len(Buildings[1]))*