

PYTHON AND CONTROL

COMPUTER SCIENCE MENTORS

August 31 - September 4, 2020

1 Intro to Python

1. What Would Python Display?

```
>>> 3

>>> "csm"

>>> x = 3
>>> x

>>> x = print("csm")
csm
>>> x

>>> print(print(print("csm")))

>>> def f1(x):
...     return x + 1
>>> f1(3)

>>> f1(2) + f1(2 + 3)

>>> def f2(y):
...     return y / 0
>>> f2(4)

>>> def f3(x, y):
...     if x > y:
...         return x
...     elif x == y:
...         return x + y
...     else:
...         return y
```

```
>>> f3(1, 2)

>>> f3(5, 5)

>>> 1 or 2 or 3

>>> 1 or 0 or 3

>>> 4 and (2 or 1/0)

>>> 0 or (not 1 and 3)

>>> (2 or 1/0) and (False or (True and (0 or 1)))
```

2. For the following expressions, list the order of evaluation of the operators and operands of the expression.

Example: `add(3, mul(4, 5))` -> `add, 3, mul, 4, 5`

(a) `add(1, mul(2, 3))`

(b) `add(mul(2, 3), add(1, 4))`

(c) `max(mul(1, 2), add(5, 6), 3, mul(mul(3, 4), 1), 7)`

3. Write a function `find_max` that will take in 3 numbers, `x`, `y`, `z`, and return the max value. Assume that `x`, `y`, and `z` are unique. Do not use Python's built-in `max` function.

```
def find_max(x, y, z):
```