

# Lab03 Solutions

PSTAT 5A, compiled by Ethan

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## 1 Task 1

```
[1]: 'statistics' < "Statistics"
```

```
[1]: False
```

We see that when comparing strings Python does not give precedence to capital letters.

## 2 Task 2

```
[2]: from datascience import * # remember that make_array is from the datascience_
      ↪ module!
```

```
[3]: x = make_array([1, 2, 3])
      y = make_array([2, 3, 1])
      x < y
```

```
[3]: array([[ True,  True, False]], dtype=bool)
```

It seems that Python compares arrays element-wise.

## 3 Task 3

Without running any code, we would expect `x` to be assigned the value "goodbye". This is because Python first checks whether 2 is less than 2; since it is not, Python then checks whether 2 is less than 3 and since 2 *is* less than 3 Python assigns `x` the value "goodbye"

```
[4]: x = 2

if x < 2:
    x = "hello"
elif x < 3:
    x = "goodbye"
else:
    x = "take care"

x
```

```
[4]: 'goodbye'
```

## 4 Task 4

Answers may vary; some include `type()`, `make_array()`, and `Table()`.

## 5 Task 5

```
[5]: def cent_to_far(c):  
      """converts from degrees Cenrigrade to degrees Fahrenheit"""  
      return (5 / 9) * c + 32
```

```
[6]: cent_to_far(0)
```

```
[6]: 32.0
```

```
[7]: cent_to_far(68)
```

```
[7]: 69.77777777777777
```

## 6 Task 6

As the hint suggests: if a number `x` is even, then `x % 2` will be 0. As such, our function should contain a conditional expression that checks whether `x % 2` is equal to 0 or not.

```
[8]: def parity(x):  
      """returns the parity of x"""  
      if (x % 2) == 0:  
          return("even")  
      else:  
          return("odd")
```

```
[9]: parity(2) # should be 'even'
```

```
[9]: 'even'
```

```
[10]: parity(3) # should be 'odd'
```

```
[10]: 'odd'
```