

CSC108 Design Recipe Warmup Exercise

Last week in lecture, we learned about the recipe for writing our own functions. Here is a quick reminder of the steps.

1. **Examples:** one or two showing the basic cases inside a docstring
2. **Type Contract:** at the top of the docstring next to the '''
3. **Header:** outdent it and pick good parameter names
4. **Description:** finish off the docstring by adding this before the examples
5. **Body:** fill in the body of the function with Python instructions
6. **Test:** call your function and confirm that the return values match your expectations

1 Writing Type Contracts

For each of the functions below, we have completed step 1. You should complete step 2 (add the type contract) by printing directly on this handout. You do not need to complete the rest of the recipe steps.

```
'''
>>> is_leap_year(1912)
True
>>> is_leap_year(2011)
False
'''

'''
>>> shift_around('abcdefgh', 3)
'defghabc'
>>> shift_around('123456', 2)
'345612'
'''

'''
>>> oldest('Dan', 'Arnold', 'Andrew')
'Andrew'
'''
```

2 Writing Function Headers

For each of the next two functions, we have completed steps 1 and 2. You should complete step 3 (add the function header) by printing directly in the space above the docstring. You do not need to complete the rest of the steps.

```
''' (str) -> str
>>> next_day('Saturday')
'Sunday'
>>> next_day('Tuesday')
'Wednesday'
'''
```

```
''' (str) -> str
>>> middle_piece('boom')
'oo'
>>> middle_piece('kaboom!!! kaboom!!!')
'aboom!!! kaboom!!'
'''
```

3 Write the Description

For each of the functions below, we have completed steps 1 - 3. You should do step 4 (add a description). You do not need to do steps 5 and 6.

```
def number_of_days(month_name):
    ''' (str) -> int
```

```
>>> number_of_days('January')
31
>>> number_of_days('April')
30
'''
```

```
def pey_eligible(cgpa, year, full_time):
    ''' (float, int, bool) -> bool
```

```
>>> pey_eligible(3.0, 3, True)
True
>>> pey_eligible(2.7, 1, True)
False
>>> pey_eligible(3.7, 2, False)
False
'''
```

When you and your partner have completed the handout, show it to your TA who will look it over and give you the next handout.