**Before We Begin**

Let's first quickly review functions in Python.

def bigger(first, second): print max(first, second) return True

In the example above:

1. We define a function called biggerthat has two arguments called firstand second.
2. Then, we print out the larger of the two arguments using the built-in function max.
3. Finally, the bigger function returns True.

Now try creating a function yourself!

# Planning Your Trip

When planning a vacation, it's very important to know exactly how much you're going to spend.

def wages(hours): # If I make $8.35/hour... return 8.35 \* hours

The above example is just a refresher in how functions are defined.

Let's use functions to calculate your trip's costs.

**Getting There**

You're going to need to take a plane ride to get to your location.

def fruit\_color(fruit): if fruit == "apple": return "red" elif fruit == "banana": return "yellow" elif fruit == "pear": return "green"

1. The example above defines the function fruit\_color that accepts a string as the argument fruit.
2. The function returns a string if it knows the color of that fruit.

**Transportation**

You're also going to need a rental car in order for you to get around.

def finish\_game(score): tickets = 10 \* score if score >= 10: tickets += 50 elif score >= 7: tickets += 20 return tickets

In the above example, we first give the player 10 tickets for every point that the player scored. Then, we check the value of score multiple times.

1. First, we check if score is greater than or equal to 10. If it is, we give the player 50 bonus tickets.
2. If score is just greater than or equal to 7, we give the player 20 bonus tickets.
3. At the end, we return the total number of tickets earned by the player.

Remember that an elif statement is only checked if all preceding if/elifstatements fail.

# Pull it Together

Great! Now that you've got your 3 main costs figured out, let's put them together in order to find the total cost of your trip.

def double(n): return 2 \* n def triple(p): return 3 \* p def add(a, b): return double(a) + triple(b)

1. We define two simple functions, double(n) and triple(p) that return 2 times or 3 times their input. Notice that they have n and p as their arguments
2. We define a third function, add(a, b)that returns the sum of the previous two functions when called with aand b, respectively. Notice that even though the names of the parameters for add(a, b) are different than the names of the parameters for double(n) and triple(p) we can still pass them into those functions as arguments

# Hey, You Never Know!

You can't expect to only spend money on the plane ride, hotel, and rental car when going on a vacation. There also needs to be room for additional costs like fancy food or souvenirs.

# Plan Your Trip!

Nice work! Now that you have it all together, let's take a trip.

What if we went to Los Angeles for 5 days and brought an extra 600 dollars of spending money?

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| def hotel\_cost(nights):  return 140 \* nights  def plane\_ride\_cost(city):  if city == "Charlotte":  return 183  elif city == "Tampa":  return 220  elif city == "Pittsburgh":  return 222  elif city == "Los Angeles":  return 475  def rental\_car\_cost(days):  cost = days \* 40  if days >= 7:  cost -= 50  elif days >= 3:  cost -= 20  return cost  def trip\_cost (city,days,spending\_money):  return rental\_car\_cost(days)+hotel\_cost(days - 1)+plane\_ride\_cost(city)+spending\_money    print trip\_cost("Los Angeles", 5, 600) |

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