# Python #4

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# **Revisiting Problems**

→ Problem #1

Ask the user to enter 5 countries.

2 of them should be the same exact value (same case and spelling).

Store these values in a set. Then iterate over the set using a loop and print it.

#### Solution

```
Lambda.py > ...
      countries = {"Canada"}
      for i in range(0, 5):
          add_country = str(input("Enter a country: "))
          countries.add(add_country)
      print()
      print(countries)
      print()
      for i in countries:
          print(i)
```

```
Enter a country: Canada
Enter a country: U.S
Enter a country: Germany
Enter a country: England
Enter a country: Brazil

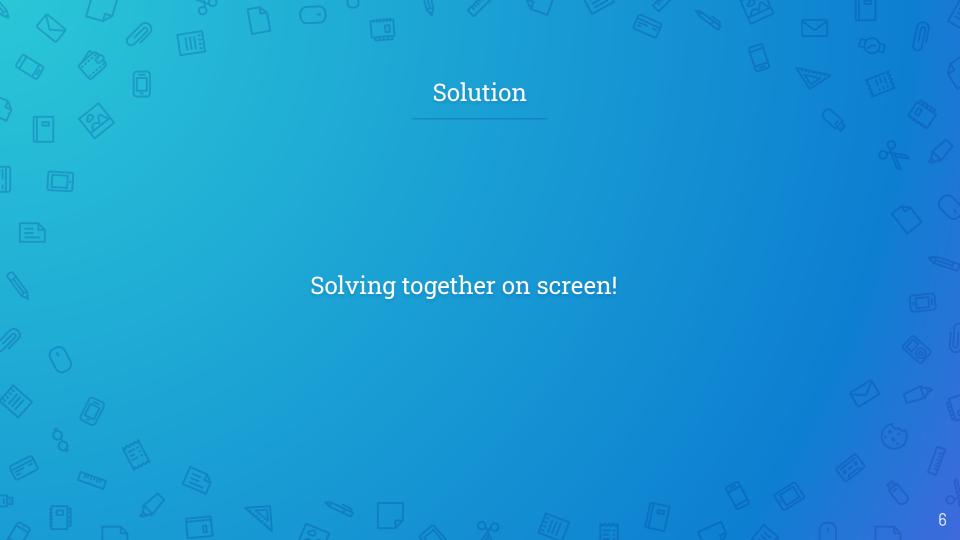
{'Brazil', 'Canada', 'Germany', 'England', 'U.S'}

Brazil
Canada
Germany
England
U.S
```

# **Revisiting Problems**

## → Problem #2

Create the function **calculation()**. Allow it to accept two variables and calculate the addition and subtraction of it. Return both addition and subtraction values in one call and print them to the user.



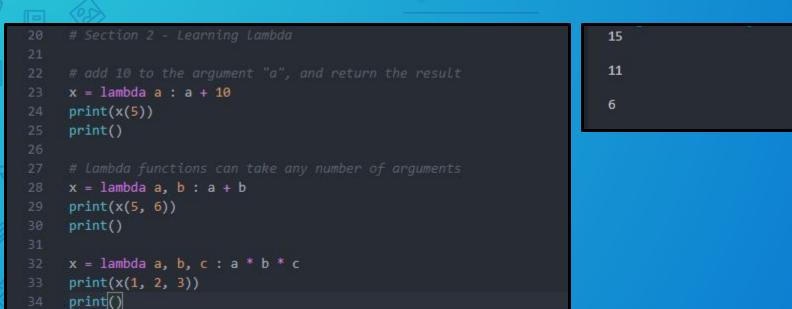
## What is Lambda?

- A lambda function is a small anonymous function
- Can take any number of arguments, but can only have one expression
- Syntax goes as following:

#### Lambda arguments : expression

- The expression is executed then the result is returned

## **Examples of Lambda**



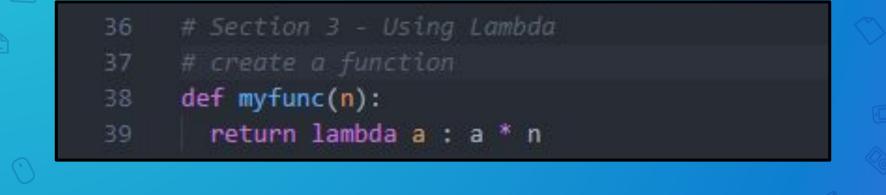
## Why use Lambda?

- Think of it as a shortcut to other mini functions
- Best used as an anonymous function inside another function
- Use lambda functions when an anonymous function is required for a short period of time

#### Example:

- Let's create a function that takes one argument, and multiplies the argument with an unknown number
  - This is a perfect case of when you can use lambda

## Create the Function



### Use the Function

Let's make the function double a number we send in...

```
38  def myfunc(n):
39    return lambda a : a * n
40
41   mydoubler = myfunc(2) # double it
42
43  print(mydoubler(11))
```



### Use the Function

Let's make the function triple a number we send in...

```
def myfunc(n):
    return lambda a : a * n

40
41  #mydoubler = myfunc(2) # double it
42  mytripler = myfunc(3) # triple it
43
44  #print(mydoubler(11))
45  print(mytripler(11))
```

### Use the Function

Let's make the function double and triple a number we send in...

```
38 v def myfunc(n):
39 return lambda a : a * n
40
41 mydoubler = myfunc(2) # double it
42 mytripler = myfunc(3) # triple it
43
44 print(mydoubler(11))
45 print(mytripler(11))
```

## Practice Problems

→ Problem #1

Ask the user to enter 2 numbers.

Create a lambda function to divide numbers by n.

Store 1 number in "n" and store the other number in the value that gets multiplied by n.