**Homework January 7, 2020**

**1. Finish attempting your flexbox mixin.**

**2. Post your solution in the support app if you want to share it with your fellow students.**

**3. Mark the project video complete.**

**4. Watch and code along with Jordan's flexbox solution.**

# CSS GRID HOMEWORK January 8th

* Complete the css grid garden game.
  + <https://cssgridgarden.com/>

### Helpful Grid Resources:

* <https://css-tricks.com/snippets/css/complete-guide-grid/>
* <https://www.w3schools.com/css/css_grid.asp>
* <https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Grid_Layout>

### Helpful Games and Tutorials

* <https://www.gridcritters.com/>
* <https://cssgrid.io/>

# CSS FLEXBOX HOMEWORK JANUARY 09

* Get as far as you can with the following game
  + <https://mastery.games/p/flexbox-zombies>

### Helpful Flexbox Resources:

* <https://developer.mozilla.org/en-US/docs/Learn/CSS/CSS_layout/Flexbox>
* <https://www.w3schools.com/css/css3_flexbox.asp>
* <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

### Helpful Games and Tutorials

* <https://flexbox.io/>

# CSS FLEXBOX HOMEWORK JANUARY 09

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### Helpful Games and Tutorials

* <https://flexbox.io/>

**HOMEWORK 01-15**

* Go to <https://www.w3schools.com/python/exercise.asp>
  + Finish the two exercises in PYTHON Syntax
  + Finish the seven exercises in PYTHON Variables
  + Finish the seven exercises in PYTHON Data Types
  + Finish the eight exercises in PYTHON Strings
* Write a Python program to calculate the length of a string.
  + Easy way
  + Hard way
    - DON'T USE THE PYTHON BUILT-IN FUNCTION

# HOMEWORK 01-16

### Chalenge\_One

* Write a Python program to get a string made of the first 2 and the last 2 chars from a given a string.
* If the string length is less than 2, return instead of the empty string.

**Sample String : 'flame'**

**Expected Result : 'flme'**

**Sample String : 'fl'**

**Expected Result : 'flfl'**

**Sample String : 'f'**

**Expected Result : Empty String**

### Challenge\_Two

* Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '$', except the first char itself.
* Sample String : 'restart'
* Expected Result : 'resta$t'

### Challenge\_Three

* Create a function that reverses any string. Ex) "Hello" to "olleH".

### Challeng\_Four

* Write a Python program to get a single string from two given strings, separated by a space and swap the first two characters of each string.
* Sample String : 'abc', 'xyz'
* Expected Result : 'xyc abz'

# HOMEWORK 01-20

### Dictionaries

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_dictionaries1>
* Complete exercises: 1-5

### Lists

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_lists1>
* Complete exercises: 1-8

### Tuples

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_tuples1>
* Complete exercises: 1-4

### Numbers

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_numbers1>
* Complete exercises: 1-3

### Booleans 1-4

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_booleans1>
* Complete exercises: 1-5

### Comments

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_comments1>
* Complete exercises: 1-2

### Sets

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_sets1>
* Complete exercises 1-5

### Create a Dictionary called "phonebook"

* Create 3 items with the key as a person's name, and the  
  value as a phone number.
* Write a line of code that updates the phone number of someone that  
  already exists in your phone book dictionary.
* Write a line of code that checks for collection by using a get function, with a fallback:
* Example output if Jill IS part of the phonebook: 'Jill': 947662781
* Example output if James is NOT part of the phonebook: 'Not found in the phonebook'

### Create a List called 'residents' with 5 names:

* Create a line of code that pops out the third person on the list:
* Create a line of code that adds a new person into the list:
* Create a line of code that sorts the residents in  
  alphabetical order:

### Create a Tuple called "employees" with 5 employee names:

* Create a line of code that prints the first employee in the Tuple:
* Create a line of code that prints the last employee in the Tuple:
* Create a line of code that prints from the 2nd employee through the  
  4th employee:

# HOMEWORK 01-21

### While Loops

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_while_loops1>
* Complete exercises: 1-4

### For Loops

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_for_loops1>
* Complete exercises: 1-4

### Conditionals

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_ifelse1>
* Complete exercises: 1-9

### Challenge: While Loops and Validation Conditionals:

* Create program that greets the user.
* By using a While-Loop, ask the user if they would like to be greeted  
  again, if they type 'y', then greet them again and keep asking until they type 'n'.
* Use validation by checking to see if they typed in anything that was  
  NOT 'y' or 'n'. If the user types in something invalid, tell the user that it was an invalid input, and ask them to try again.
* **Sample output:**
* **- Output: Hello friend!**
* **- Output: Would you like to be greeted again?**
* **- input: y**
* **- Output: Hello friend!**
* **- Output: Would you like to be greeted again?**
* **- input: ;lkj;ljlkj**
* **- Output: I'm sorry, that was an invalid input.**
* **- Output: Please try again:**
* **- Output: Would you like to be greeted again?**
* **- input: y**
* **- Output: Hello friend!**
* **- Output: Would you like to be greeted again?**
* **- input: n**

**- Output: Have a nice day!**

**### Challenge: Count the vowels:**

**- Create a function that counts the amount of vowels in a string.**

Sample output:

**- Output: type out a word or sentence....**

**- Input: Kent is cool on Teusdays.**

**- Output: You typed out 8 vowels**

**""" You work at looping but no conditional """**

**def while\_loop\_fun(max\_number):**

**counter = 1**

**while counter < max\_number + 1:**

**print(counter)**

**counter += 1**

**while\_loop\_fun(100)**

**""" Working while loop solution """**

**def while\_loop\_fun(max\_number):**

**counter = 1**

**while counter < max\_number + 1:**

**if counter % 3 == 0 and counter % 5 == 0:**

**print("FizzBuzz")**

**elif counter % 5 == 0:**

**print("Buzz")**

**elif counter % 3 == 0:**

**print("Fizz")**

**else:**

**print(counter)**

**counter += 1**

**while\_loop\_fun(100)**

**# HOMEWORK 01-22**

**### Lambdas**

**- Go to:**

**https://www.w3schools.com/python/exercise.asp?filename=exercise\_lambda1**

**- Exercises 1**

**### Functions**

**- Go to:**

**https://www.w3schools.com/python/exercise.asp?filename=exercise\_functions1**

**- Exercises 1-6**

**### Coding Challenge: Palindrome Checker:**

**- Create a function called 'check' that checks if a word in a string is a palindrome.**

* Sample output:
  + output: Type out a word or a sentence:
  + input: "racecar is a cool word lol"
  + output: 'racecar' is a palindrome!

'a' is a palindrome!

'lol' is a palindrome!

**### Create a function and pass in kwargs to print out a first name, middle name, and last name.**

* Sample output:
  + first == Kent
  + mid == James
  + last == Potter

### Modules

* Go to: <https://www.w3schools.com/python/exercise.asp?filename=exercise_modules1>
* Exercises 1-4

### Create a dictionary called 'filter\_genre'. 'filter\_genre' should have 3 keys: action, romance and comedy.

# Each genre will have 2 channels (also dictionaries). Each channel will have a LIST of 2 tv shows inside.

**filter\_genre**

**action**

**HBO - "The Pacific", "Watchmen"**

**TNT - "Top Gun", "Terminator"**

**romance**

**ABC - "The Bachelorette", "Once Upon a Time"**

**CBS - "Mom", "I love Lucy"**

**comedy**

**Fox - "How I Met Your Mother", "New Girl"**

**Disney Channel - "That's so Raven", "Mickey's Playhouse"**

# Write a line of code that prints all of the genres.

# Write a line of code that prints all of the channels inside of the comedy genre

# Write a line of code that prints the cannels and tv shows inside of the romance genre

# Write a line of code that prints the second tv show inside of HBO

### Char counter:

# Write a Python program to count the number of characters (character frequency) in a string.

# Sample String : google.com'

# Expected Result : {'o': 3, 'g': 2, '.': 1, 'e': 1, 'l': 1, 'm': 1, 'c': 1}

# Homework 1-24

During the weekends I want you to take the skills you learned during the week and apply them to personal projects. Along with working through the following essay questions.

### Introduction to Programming with Python

* What is the Zen of Python?
* What purpose does indentation serve in Python?
* List at least 5 python Data Types.
* List at least 2 types of comments you can use in python
* Are Python Strings immutable or mutable?
* Are Python Lists immutable or mutable?
* What is a Heredoc?
* What can be stored in a Python List?
* Explain what a Python Dictionary is and how you might use one.
* What is a Tuple in python?
* What is a Set in python?
* Name 2 types of loops in Python
* What is List Comprehension in Python?
* What is a Python Conditional and what is it used for?
* What happens when you return a value for a python method/function
* What is a default argument and explain a use case.
* What is a named argument?
* What does the \*args do in a python function and how might you use it?
* What are Keyword Arguments in Python?

### Advanced Python Programming

* What is a Class in python?
* What is a dunder method in Python
* What is self in python and how might we use it?
* How does inheritance work in python?
* What is pipenv?
* What is Polymorphism
* What is the purpose of **init** in python
* What is a decorator and what is its purpose in python
* What is a Generator in python
* How do you declare a new instance of a class?

### Homework 1-27

* Create a game where the program produces a random number between 1 and 100.
* Allow the user to guess a number and prompt the user if their guess was too high or too low until
* the user guesses the correct number.
* We will have the homework for building a Class tomorrow. Please do some research on HTTP Verbs and HTTP Status Codes.

Gravatar for danielfloyd@bottega.tech

**Daniel Floyd*January 27th 2020 5:03:35 pm***

### Homework 1-27

**- Create a game where the program produces a random number between 1 and 100.**

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**- the user guesses the correct number.**

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# Homework 1-29

Build three classes, two of which must inherit from the first and employ polymorphism. Between the three classes there must be at least 5 methods, 3 instance attributes, and 1 class attribute. Each class should have a dunder str and dunder representation, and the parent class should have a dunder init.

# Homework 1-29

* Create a new Mongo Database, load 6 “documents” into a Mongo Collection all at once, show how to delete the 3rd, and 5th documents, only leaving 4 left.
* Write down each step for me to review, "To create a new DB, I did this: etc"
* Create a new Mongo Database
* Create a Mongo Collection
* Insert 6 documents into the Mongo Collection all at once
* Check to see what you have
* Delete the 3rd document
* Delete the 5th document
* Check to make sure only 4 are left

# Homework 1-30

### Python Flask Movie App

* CRUD Functionality
* id
* title
* year
* rating
* genre
* starring

Extra: Build a static front-end using flask's render\_template method

# Homework 1-31

### "Python API Development with Flask"

* What is Flask?
* What is an API?
* What is the purpose of an API endpoint
* What is pipenv?
* What is SQLite?
* Explain how you can use the HTTP verb POST
* Explain how you can use the HTTP verb GET
* Explain how you can use the HTTP verb PUT
* Explain how you can use the HTTP verb DELETE
* Explain what SQLAlchemy is?

### "MongoDB for Developers"

* What is MongoDB
* What is a MongoDB Collection
* What is a Document and how do you use them in mongodb?
* What is the find() method used for?
* What is the .pretty used for?
* What is the difference between SQL databases and Mongodb
* How would you add a document in a mongodb database
* How would you use a projection?
* How do you run a local instance of mongo
* How would you delete a document

# Homework 02-03

### Write a JavaScript function to check whether an ‘input’ or argument passed into your function is a string or not

* ex: stringChecker(“i am a string”) //returns True
* stringChecker(100) //returns false

### Write a JavaScript function to capitalize the first letter of a string or argument.

* ex: capitalizeString(“hi there”) // returns “Hi there”

### Write a JavaScript function that accept two integers as arguments and returns the larger number.

* ex: largerNumber(12, 9) // returns 12

### Write a javascript function that adds two strings together

* ex: stringAdder(“hi”, “there”) // returns “hi there”

# Homework 02-04

### JS Comparisons

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_comparisons1>
* Complete exercises: 1-4

### JS Conditions

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_conditions1>
* Complete exercises: 1-2

### JS Switch

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_switch1>
* Complete exercises: 1-2

### JS Strings

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_strings1>
* Complete exercises: 1-3

### JS String Methods

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_string_methods1>
* Complete exercises: 1-5

### JS Objects

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_objects1>
* Complete exercises: 1-3

### JS Variables

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_variables1>
* Complete exercises: 1-5

### JS Operators

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_operators1>
* Complete exercises: 1-5

### JS Data Types

* Go to: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_datatypes1>
* Complete exercises: 1

# Homework 02-05

## Try to write all of these functions using the arrow function syntax.

### Write a function that takes in a string and returns the letters in alphabetical order

* function(“Hi there”) // eehhirt

### Write a function that takes in an object and prints all of the values inside of the given object

### write a function that takes in a string separated by hyphens and prints the words in a hyphen-separated sequence after sorting them alphabetically.

* ex: “green-red-black-white ”
* returns: “black-green-red-white ”

### Write a function that generates a random hexadecimal color code

* This is a hexadecimal => #4287f5

### Debugger

* Create a new folder called debugger
* Create a new file inside that folder called index.html
* Create a new file inside that folder called index.js
* Add boiler plate html to the index.html along with a script tag that links to the index.js file
* Inside your index.js file add the following code

**let numbers = [1, 2, 3, '4', 5]**

**let sum = 0**

**for (let i = 0; i < numbers.length; i++) {**

**sum += numbers[i]**

**}**

**console.log(sum)**

* Open the index.html file in your browser and you should see a console log of 15
* Use the debugger in the for loop to fix the code
* After you fix the bug turn this code into a function

### ES6 Starter and Importing/Exporting

* Generate a new es6-starter inside your 02-modules folder using the js-generate command
* Name the project js-modules-challenge
* Change into that newly created folder
* Install the packages via the npm install command
* Start your server after the packages are installed
* Create a new file in your src folder called classChallenge.js
* Inside the classChallenge.js file make a default export and two named exports

**default function needs to return `<div>classChallenge</div>`**

**one of the named exports needs to be a variable that has a value of a string "welcome"**

**one of the named exports needs to be a function that returns the sum of two numbers**

* Inside the bootstrap.js file I want you to import the classChallenge file and use the default function along with the two named exports
* console.log() the default function along with the two named exports

def fizz\_buzz (range\_end = 100):

counter = 0

while counter != range\_end:

counter += 1

if counter % 3 == 0 and counter % 5 == 0:

print('FizzBuzz')

elif counter % 3 == 0:

print('Fizz')

elif counter % 5 == 0:

print('Buzz')

else:

print(counter)

fizz\_buzz()