PYTHON ASSIGNMENT

MAKE A MOVE TO PYTHON

ASSIGNMENTS

SUBMITTED TO

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TASK- 6:
HIGHER ORDER FUNCTIONS,GENERATORS,LIST COMPREHENSION AND DECORATORS

Write a program in Python find the values which is not divisible 3 but is should be a multiple of 7. Make sure to use only higher order function.

```
integers = range(1,20)

def calc(num):
  if num % 3 != 0 and num % 7 == 0:
    return num

calculation = list(filter(calc,integers))   #Higher Order Function

print("The numbers not divisible by 3 and multiple of 7 are {}:
".format(calculation))
```

Output:

The numbers not divisible by 3 and multiple of 7 are [7, 14]:

Write a program in Python to multiple the element of list by itself using traditional function and pass the function to map to complete the operation.

```
l = [1,2,3,4,5,6,7,8,9]

def mul(num):
  return num * num


result = list(map(mul,l))

print(result)
```

Output:

[1, 4, 9, 16, 25, 36, 49, 64, 81]

Write a program to Python find out the character in a string which is uppercase using list comprehension.

```
string = "Hello, Consultadd is Best in providing Training"
result = [data for data in string if data.isupper()]
print(result)
```

Output:

```
['H', 'C', 'B', 'T']
```

Write a program to construct a dictionary from the two lists containing the names of students and their corresponding subjects. The dictionary should map the students with their respective subjects. Let's see how to do this using for loops and dictionary comprehension. HINT-Use Zip function also

```
Student = ['Smit', 'Jaya', 'Rayyan']
capital = ['CSE', 'Networking', 'Operating System']
```

Method-1

```
# Using For Loop

temp = {}
for data in Student:
   for subject in capital:
      temp[data] = subject
      capital.remove(subject)
      break

print("Dictionary is: {}".format(temp))
```

Output:

```
Dictionary is: {'Smit': 'CSE', 'Jaya': 'Networking', 'Rayyan': 'Operating System'}
```

Method-2

```
Student = ['Smit', 'Jaya', 'Rayyan']
capital = ['CSE', 'Networking', 'Operating System']

# Using Dictionary Comprehension

dict = {Student[i]: capital[i] for i in range(len(Student))}

print(dict)
```

Output:

```
{'Smit': 'CSE', 'Jaya': 'Networking', 'Rayyan': 'Operating System'}
```

Method-3

```
Student = ['Smit', 'Jaya', 'Rayyan']
capital = ['CSE', 'Networking', 'Operating System']

# Using Zip Function

result = dict(zip(Student, capital))

print(result)
```

Output:

```
{'Smit': 'CSE', 'Jaya': 'Networking', 'Rayyan': 'Operating System'}
```

Method-4

```
Student = ['Smit', 'Jaya', 'Rayyan']
capital = ['CSE', 'Networking', 'Operating System']

# Using Dictionary Comprehension, For Loop and Zip Function
```

```
result = {keys: values for keys, values in zip(Student, capital)}

print(result)
```

Output:

```
{'Smit': 'CSE', 'Jaya': 'Networking', 'Rayyan': 'Operating System'}
```

Learn More about Yield, next and Generators.

Generators: Generators are simple functions which return an iterable set of items, one at a time, in a special way. If a function contains at least one yield statement (it may contain other yield or return statements), it becomes a generator function. Both yield and return will return some value from a function.

Yield: A yield statement is used to define generators, replacing the return of a function to provide a result to its caller without destroying local variables. Unlike a function, where on each call it starts with new set of variables, a generator will resume the execution where it was left off.

Next: The next() function returns the next item in an iterator. Further we can add a default return value, to return if the iterable has reached to its end.

Write a program in Python using generators to reverse the string. Input String = “Consultadd Training”

```
def reverse(string):

   yield string[::-1]


for data in reverse("Consultadd Training"):
   print(data)
```

Output:

gniniarT ddatlusnoC

Write any example on decorators.

Decorators allows programmers to modify the behavior of a function or class. They also allows us to wrap another function in order to extend the behavior of wrapped function, without permanently modifying it.

Further In decorators, functions are taken as arguments into another function and then called inside the wrapper function.

Example of Decorator:

```
def decorator_list(data):
   def inner(list_of_tuples):
      return [data(val[0], val[1]) for val in list_of_tuples]
   return inner


@decorator_list
def add_together(a, b):
   return a + b

print(add_together([(1, 3), (3, 17), (5, 5), (6, 7)]))
```

Output:

[4, 20, 10, 13]

Learn about What is FRONT END and its Technologies and Tools Make sure to mention at least 5 top notch technologies of Frontend. Also mentioned the name of companies using those 5 technologies individually.

What is Front End:

Front-end web development, also known as client-side development is the practice of producing HTML, CSS and JavaScript for a website or Web Application so that a user can see and interact with them directly. The challenge associated with front end development is that the tools and techniques used to create the front end of a website change constantly and so the developer needs to constantly be aware of how the field is developing.

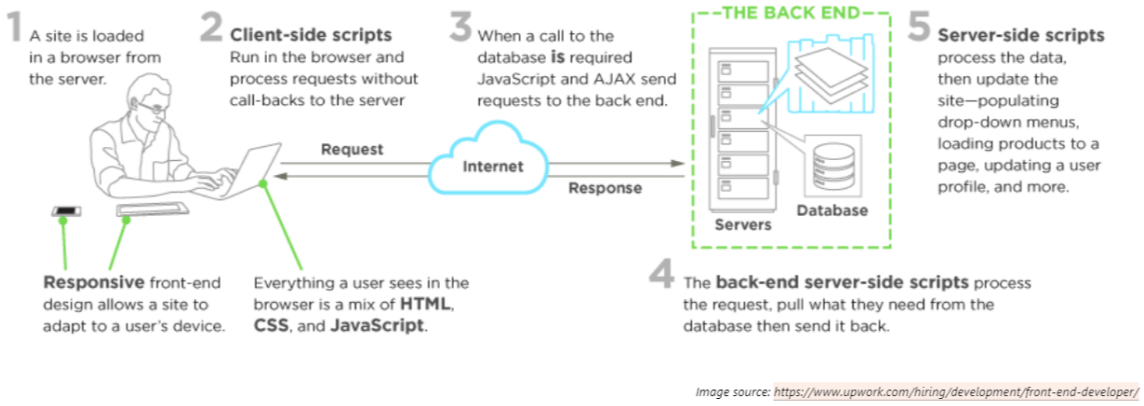


Image source: https://www.upwork.com/hiring/development/front-end-developer/

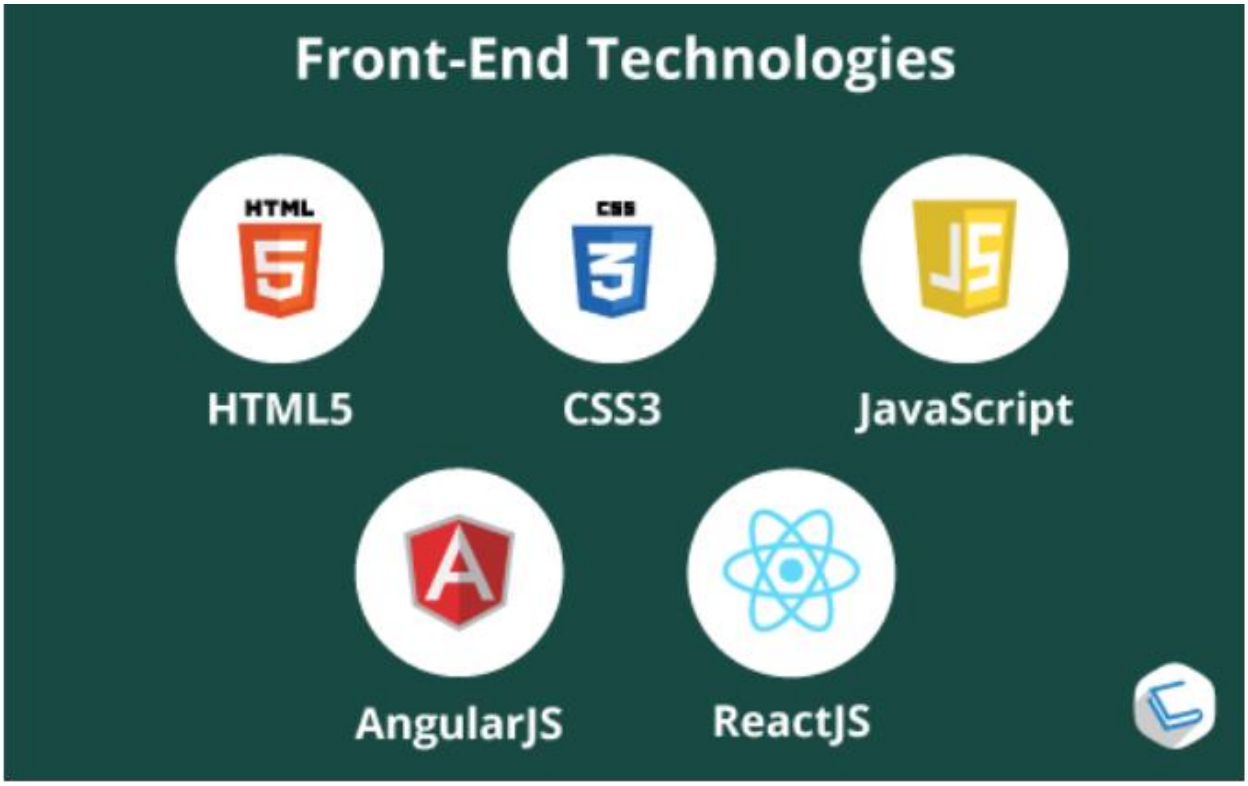
A front-end developer architects and develops websites and web applications using web technologies (i.e., HTML, CSS, and JavaScript), which typically runs on the Open Web Platform or acts as compilation input for non-web platform environments (i.e., React Native).

A person enters into the field of front-end development by learning to build a website or web application which relies on HTML, CSS, and JavaScript and

commonly runs in a web browser but can also run in a headless browser, WebView, or as compilation input for a native runtime environment.

Technologies of Front End:

There are some basic skills that we need to master to be known as a front-end developer. We need to be an expert on some of these. And then there are the desirable skills. A mixture of both when matches with the requirement of a company, we have high chances of getting hired as a front-end engineer.



The following core web technologies are employed by front-end developers (consider learning them in this order):

- Uniform Resource Locators (aka URLs)
- Hypertext Transfer Protocol (aka HTTP)
- Hyper Text Markup Language (aka HTML)
- Cascading Style Sheets (aka CSS)
- AngularJS
- ReactJS

- JavaScript Programming Language (aka ECMAScript 262)
- GitHub
- JavaScript Object Notation (aka JSON)
- Document Object Model (aka DOM)
- Web APIs (aka HTML5 and friends or Browser APIs)
- Web Content Accessibility Guidelines (aka WCAG) & Accessible Rich Internet Applications (aka ARIA)

Companies that Uses Front End Technologies:

Google Web Solutions uses Angular JS, Node JS, HTML

Netflix uses React JS and Javascript

Reddit uses HTML 5 technology.

PayPal uses javascript and Node JS. They also created their own version of Express called KrakenJS.

Facebook uses JavaScript, HTML and React.