

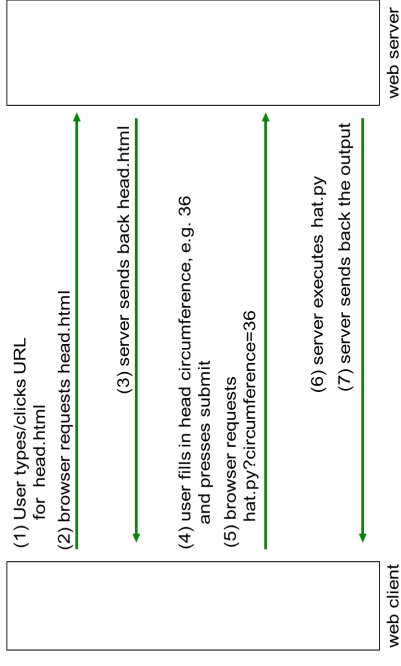
# CS11116/CS5018

## Web Development 2

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### Two files



### Big head

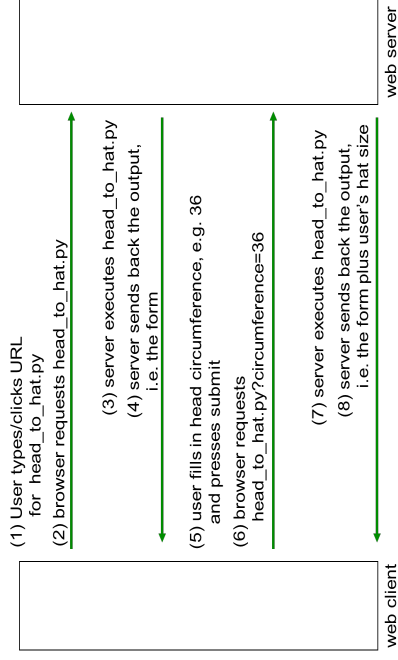
- A person's hat size is obtained by measuring the circumference of the head just above the ears in inches and dividing by  $\pi$
- Up to now, a program to take in circumferences and output hat sizes would consist of two files, e.g.:
  - o head.html: an HTML web page that contains a form

```
<form action="hat.py" method="get">  
  <input type="text" name="circumference" />  
  <input type="submit" />  
</form>
```
  - o hat.py: a Python program that receives the data, carries out the calculation, and prints the result into a new web page

### Self-processing page

- We can instead write this using a **self-processing page**:
  - o a single Python program, e.g., head\_to\_hat.py
  - o when requested without user data, it outputs the form
  - o when requested with user data, it receives the data, carries out the calculation, and outputs the form again but with the result included

## Self-processing page



## head\_to\_hat.py: a self-processing page

Complete the program:

```
#!/usr/local/bin/python3
enable()
from cgi import FieldStorage
from math import pi
print('Content-Type: text/html')
print()
form_data = FieldStorage()
hat_size = 0.0
if
print("""
<DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <title>Big head</title>
</head>
<body>
  <form action="head_to_hat.py" method="get">
    <label for="circumference">Circumference: </label>
    <input type="text" name="circumference" id="circumference" />
    <label for="hat_size">Hat size: </label>
    <input type="text" name="hat_size" id="hat_size" value = "%f" disabled />
    <input type="submit" />
  </form>
</body>
</html>""" % (hat_size))
```

## Pseudocode

```
if the user has not sent us any data:
    output a web page containing the form
else:
    calculate the person's hat size
    output a web page containing the form and the hat size
```

Or:

```
set the hat size to 0
if the user has sent us some data:
    calculate the person's hat size
    output a web page containing the form and the hat size
```

## Sticky forms

- A sticky form
  - if you submit some data using the form and the form is then re-displayed, the text fields are re-displayed with your data still in them
- Modify `head_to_hat.py` to make the form a sticky form

## Private study

Modify `head_to_hat.py` so that it also validates the user's input