

Question 1

1 pts

A document object model must be

- ☐ a. Cyclic and weakly connected
- ☐ b. Acyclic and strongly connected
- ☐ c. Acyclic and weakly connected
- ☐ d. Cyclic and strongly connected

Question 2

1 pts

1. Document object model can include the results generated by any scripts
2. The requests module can get the results generated by scripts
3. The selenium module will automatically wait for the script results to load before including them in the model.

How many statements are true?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3

Question 3

1 pts

Let "b" be a Chrome webdriver

Which of the following is the correct way to find the hyperlink on a webpage?

- ☐ a. b.find_element("tag name", "a")
- ☐ b. b.find_element("tag name", "a").get("href")
- ☐ c. b.get_attribute("tag name", "href")
- ☐ d. b.find_element("tag name", "a").get_attribute("href")

Question 4

1 pts

Which of the following is responsible for specifying the correct content type on a website?

- ☐ a. File extension
- ☐ b. Hyperlink extension
- ☐ c. Name of handler function
- ☐ d. Response header

Question 5

1 pts

Which of the following allows us to access the ip address of the user visiting the flask application?

- ☐ a. flask.request.remote_addr
- ☐ b. flask.request.ip_addr
- ☐ c. flask.Response.ip_addr
- ☐ d. flask.Response.remote_addr

Question 6

1 pts

Which of the following represents the local ip address?

- ☐ 127.0.0.1
- ☐ 0.0.0.0
- ☐ "any"
- ☐ "all"

Question 7

1 pts

Select the false statement

- ☐ a. Status code 429 indicates that too many requests were made to the server
- ☐ b. Rate limiting can be implemented by only setting the Retry-After response header
- ☐ c. Rate limiting prevents the server from slowing down
- ☐ d. Rate limiting involves setting the Retry-After header so that users can see what the limit is and adhere to it

Question 8

1 pts

	Click	No-click
A	1000	5000
B	300	450

A company is trying to design a good homepage to sell their products. Their designers designed two different homepages and you are trying to determine which one is more attractive. The above table shows the number of people who clicked on the product information link from each version of the homepage. Which homepage would you choose and why?

- ☐ a. A, because it more people clicked on the link from A.
- ☐ b. A, because a higher fraction of visitors clicked on the link from A.
- ☐ c. B, because it more people clicked on the link from B.
- ☐ d. B, because a higher fraction of visitors clicked on the link from B.

Question 9

1 pts

Which of the following statements is true?

- ☐ a. When comparing click-through rates for A/B testing, a higher p value indicates that the versions have a significantly different click through rate.
- ☐ b. The number of impressions of A and B must be equal for an A/B test.
- ☐ c. B/A testing, in combination with A/B testing, helps to control for novelty.
- ☐ d. The p value is the false negative rate.

Question 10

1 pts

Why do we use io.StringIO for displaying dashboards (as we use it in CS320)?

- ☐ a. It is used to write and read the image in png format
- ☐ b. It is used to write and read the image in svg format
- ☐ c. It is used to write and read the image in jpg format
- ☐ d. It is used to write and read the image in xml format

Question 11

1 pts

Consider the following code.

```
from flask import Flask, request, jsonify, Response

app = Flask("cs320")

@app.route("/")
def home():
    return("test")

@app.route("/getdata.html")
def data():
    qstring = request.args.get("y", 0)
    print(qstring)
    return(str(request.args.get("x", 9)))

if __name__ == '__main__':
    app.run(host="0.0.0.0", debug=True, threaded=False)
```

What value will be displayed on the webpage on accessing <http://127.0.0.1:5000/getdata.html?x=2y=3> ?

- ☐ 2
- ☐ 2y=3
- ☐ 0
- ☐ 9
- ☐ Error

Question 12

1 pts

Which of the following is false?

- ☐ a. The POST route is used to allow users to upload information
- ☐ b. We can send and receive data from the command-line on a POST route
- ☐ c. The POST route is useful for collect large amounts of data from the users
- ☐ d. POST is the default route used by flask

Question 13

1 pts

```
string = "She sells seashells and she also goes surfing"
```

```
re.sub(r"^She(?:.*)she(?:.*)$", "\g<2>\g<1>", string)
```

What is the output of the above code?

- ☐ a. 'lls and she also goes surfing sells sea'
- ☐ b. ' sells sealls and she also goes surfing'
- ☐ c. ' also goes surfing sells seashells and '
- ☐ d. ' sells seashells and also goes surfing'

Question 14

1 pts

```
string = ""Aples
```

```
Oranges
```

```
Peach
```

```
"""
```

```
l = re.findall("[Apple|Banana]", string)
```

```
len(l)
```

What is the output of the above code?

- ☐ 0
- ☐ 1
- ☐ 9
- ☐ 10

Question 15

1 pts

```
fig, ax = plt.subplots(figsize=(4, 4))

ax.set_xlim(0,2)

ax.set_ylim(0,2)

c1 = plt.Circle((0.5, 0.5), 0.3, transform=ax.transData, color="red", alpha=0.5)

ax.add_artist(c1)

c2 = plt.Circle((0.5, 0.5), 0.3, transform=ax.transAxes, color="blue", alpha=0.5)

ax.add_artist(c2)

c3 = plt.Circle((0.5, 0.5), 0.3, transform=fig.transFigure, color="yellow", alpha=0.5)

ax.add_artist(c3)
```

Select the largest circle

- ☐ c1
- ☐ c2
- ☐ c3

Question 16

1 pts

Which of the following is true?

- ☐ a. `gdf.intersects()` returns a Boolean series
- ☐ b. `gdf.intersection()` returns a Boolean series
- ☐ c. `gpd.GeoDataFrame` is the parent class of `pd.DataFrame`
- ☐ d. `gdf.intersects()` returns a `GeoSeries`

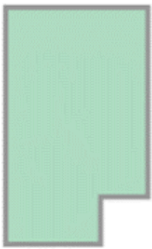
Question 17

1 pts

from shapely.geometry import box

x = box(1,1,3,3)

y = box(1,2,4,6)



Which of the following would produce the above figure as the output?

- ☐ a. `x.union(y)`
- ☐ b. `x.intersection(y)`
- ☐ c. `x.difference(y)`
- ☐ d. `y.difference(x)`