<table>
<thead>
<tr>
<th>DFS</th>
<th>Maps</th>
<th>Linux</th>
<th>HTML</th>
<th>Misc</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
• This is the ADT that DFS uses
Answer 1 – 10

- Stack
Question 1 - 20

• Why do you need to mark the visited nodes in a graph when you traverse it using DFS
Answer 1 – 20

• Prevent cycles
Question 1 - 30

• What is it called when every vertex is adjacent to every other vertex?
Answer 1 – 30

• Complete graph or clique
Question 1 - 40

• What is one of the main differences between DFS and BFS?
Answer 1 – 40

- DFS uses a stack, BFS uses a queue
Question 1 - 50

• What is the basic psuedo code of a recursive DFS
dfs(vertex v)
{
    visit(v);
    for each neighbor w of v if w is unvisited {
        dfs(w);
    }
}
Question 2 - 10

• How many buckets are available in this hash table?

• Int[] t = new int[101];
Answer 2 – 10

• 101
Question 2 - 20

- How many significant digits are saved using this hash function

- \( N \% 100 \)
Answer 2 – 20

• 2
Question 2 - 30

• This rehashing technique adds one to the hash function in the event of a collision
Answer 2 – 30

- Linear probing
Question 2 - 40

- This rehashing technique uses a 2D matrix to deal with collisions
Answer 2 – 40

• Buckets
Question 2 - 50

- This rehashing technique uses an array and a linked list to deal with collisions
Answer 2 – 50

• Chaining
Question 3 - 10

• This command shows all the files and folders in the current directory (with details like size, permissions)
Answer 3 – 10

• ls -la
Question 3 - 20

• This is the symbol for your home directory.
• This is the symbol for the root
Answer 3 – 20

• ~ and /
Question 3 - 30

• What is 755 in permissions
Answer 3 – 30

• rwx r-x r-x
Question 3 - 40

- What do these symbols mean on a Linux shell?
  - `<`
  - `>`
Answer 3 – 40

- Redirect to standard in
- Redirect to standard out
Question 3 - 50

• How do read from standard in in Java?
Answer 3 – 50

• Scanner in = new Scanner(System.in);
Question 4 - 10

• Name the acronyms?
• HTML
• CSS
• JS
• LAMP
• DOM
Answer 4 – 10

• Hypertext markup language
• Cascading style sheet
• Javascript
• Linux Apache Mysql Php
• Document Object Model
Question 4 - 20

• How can you link to an external website like google in HTML?
Answer 4 – 20

• <a href="http://www.google.com">google</a>
Question 4 - 30

• How do you make the color of the text red in CSS?

• <p id="test">Text</p>
Answer 4 – 30

p#test {
  color: red;
}


Question 4 - 40

• How can you create a descendant selector in CSS (p as a child of h1 for example)
Answer 4 – 40

- h1 p {}

- (space between elements)
Describe what the following does,

```javascript
router.get('/add/:username/:password', function(req, res, next) {
  res.render('login', {data: req.params.password});
});
```
Answer 4 – 50

- Renders login.jade and sends the password as the data object
Can you setup a 3 column grid in bootstrap?
Answer 5 – 10

- `<div class="container">
  - `<div class="row">
    - `<div class="col"> col1 </div>
    - `<div class="col"> col2 </div>
    - `<div class="col"> col3 </div>
  - `</div>
- `</div>`
Question 5 - 20

• Can you convert from HTML 2 Jade?

• <div id="test2">
  • <p class="hello" data="hello">Testing</p>
  • </div>
Answer 5 – 20

#test2

p.hello(data="hello") Testing
Can you convert this CSV to JSON

user, comment, rating
ek, hello there, 3
vg, not good, 4
Answer 5 – 30

[  
  {"user":"ek", "comment":"hello there", "rating":3},  
  {"user":"vg", "comment":"not good", "rating":4}  
]
Create a form that POSTs to /login and has a text field named “pin” and submit button
<form action="/login" method="post">
  <input name="pin" type="text" />
  <input type="submit" value="submit" />
</form>
Question 5 - 50

- What is JS variable hoisting?
Answer 5 – 50

• Rewriting of javascript variable declarations to the top of the function