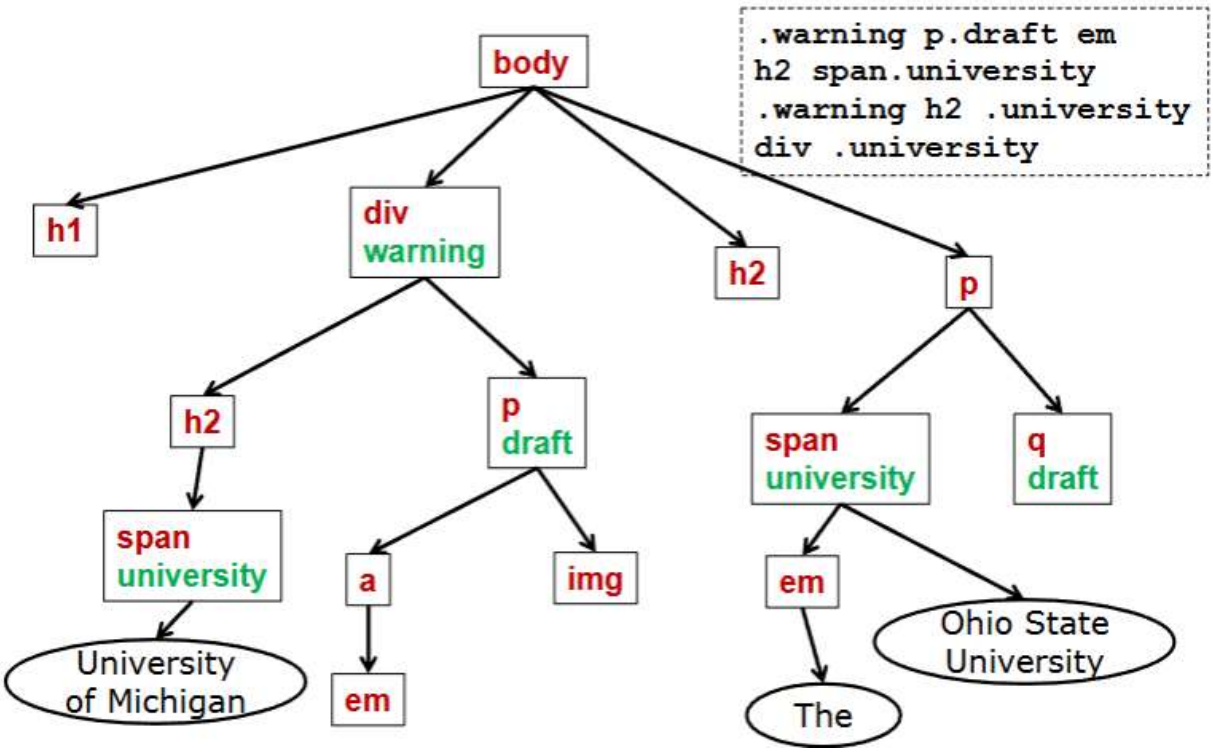
1. **Is
 a tag or (literal) constant?**
2. **Using the given tree, find the node that corresponds to each of the following:**



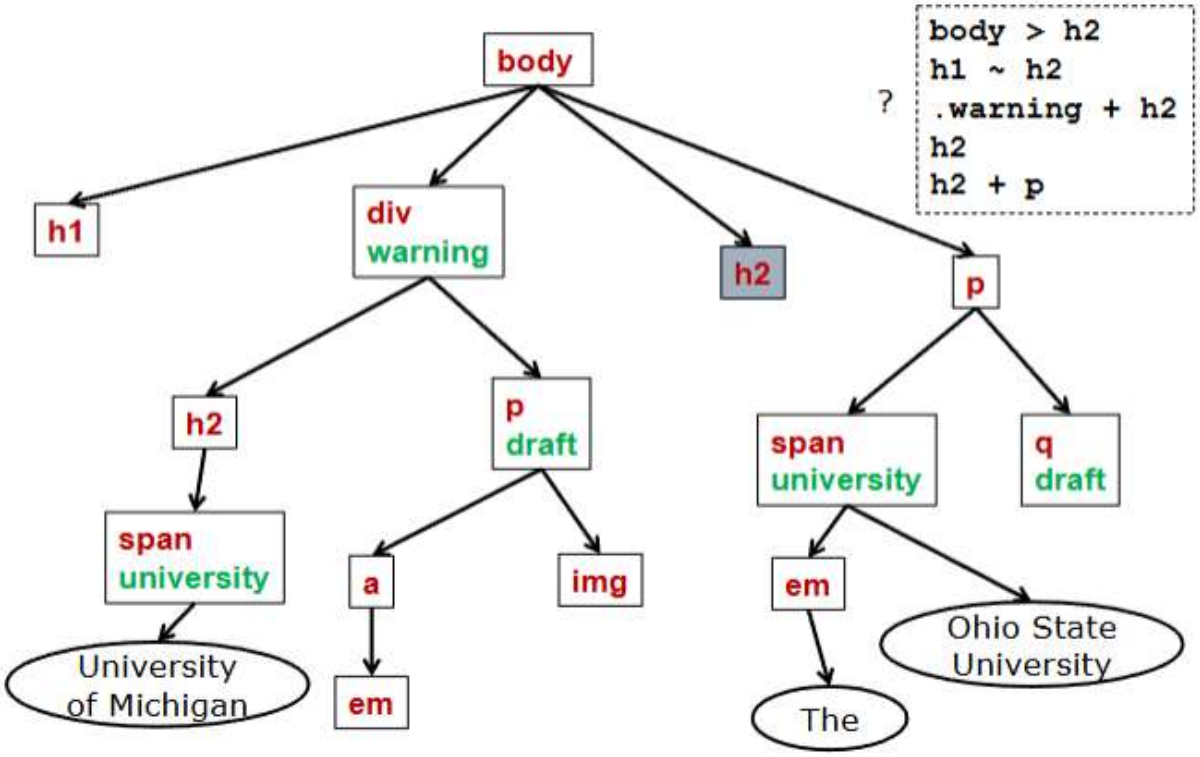
.warning p.draft em

h2 span.university

.warning h2 .university

div .university

3. **Using the given tree, which rule applies to the shaded node?**



4. **Which rule has higher priority:**

   #main li { }

   .draft ul li { }

5. **Order the following from high to low priority:**

   .draft div .warning li { }

   .draft div #main li { !important; }

   .draft div #main ul li { }

   .draft .warning ul li { }

6. **In JavaScript, what do the following if-statements evaluate to?**

```
let a = 5;
let b = 5;
let c = 7;
if (a == b)…
if (a == c)…
let x = “hello”;
let y = “hello”;
if (x == y)…
```

7. **In JavaScript, what does the following if-statement evaluate to?**

```
let a = 5;
let b = 1;
b++;
if (a == 5)…
```

8. **In JavaScript, what does the following if-statement evaluate to?**

```
function inc (param) {
        param++;
}
let a = 5;
inc(a);
if (a == 5)…
```

9. **In JavaScript, what do the following if-statements evaluate to?**

```
let a = {x:1, y:4};
let b = {x:1, y:4};
if (a == b)…
a = b;
if (a == b)
```

10. **In JavaScript, what does the following if-statement evaluate to?**

```
function inc (param) {
        param.x++;
}
let a = {x:1, y:4};
inc(a);
if (a.x == 2)…
```

11. **In JavaScript, what does the following if-statement evaluate to?**

```
function inc (param) {
        param = {x:2, y:7};
}
let a = {x:1, y:4};
inc(a);
if (a.x == 2)…
```

12. **In JavaScript, what does the following expression evaluate to?**

```
P = “cat” || “dog”
```

13. **In JavaScript, what does the following expression evaluate to?**

```
P = !!(“cat” || “dog”)
```

14. In JavaScript, what do the following expressions evaluate to?

true == ‘1’

‘false’ == false

0 == ‘0’

0 == ‘’

NaN == Nan

15. In JavaScript, what do the following expressions evaluate to?

false == ‘false’

false == ‘0’

!!’0’

(‘0’ == 0) && (0 == ‘’) && (‘0’ != ‘’)

(NaN == true) || (NaN == false)

!!NaN

(NaN != 0) && (!!NaN == !!0)

16. In JavaScript, what value does the apply() function return?

```
function apply(f,a) {
        return f(a);
}
function square(i) {
        return i * i;
}
apply(square, 5)
```

17. In JavaScript, what value does the phd() function return?

```
function grantDegree() {
        function addTitle(name) {
                return 'Dr. ${name}';
        }
        return addTitle;
}
let phd = grantDegree();
phd("Turing");
phd(3/2);
```

18. In JavaScript, what value do each of the following lines return?

```
let isBig(elt, index, array) => {
return (elt >= 10);
}
[5, 8, 13, 44].every(isBig);
[51, 18, 13, 44].every(isBig);
[5, 8, 13, 44].some(isBig);
[5, 8, 1, 4].some(isBig);
```

19. What is the value of t after the following expression in JavaScript?

```
T = [12, 5, 8, 13, 44].filter(isBig);
```

20. What is the array after the following code in JavaScript?

```
let logArrayElts = (elt, i, arr) => {
console.log("[" + i + "] = " + elt);
}
[2, 5, 9].forEach(logArrayElts);
```

21. **What is the result of each of the following JavaScript expressions?**

    let sum - (a, b) => a + b;

    let acc = (a, b) => a + 2 * b;

    [2, 3, 7, 1].reduce(sum)

    [2, 3, 7, 1].reduce(sum, 0)

    [2, 3, “7”, 1].reduce(sum)

    [2, 3, 7, 1].reduce(acc)

    [2, 3, 7, 1].reduce(acc, 0)

22. **What is the result of the following expression in JavaScript?**

    [2, 3].reduce((a, b) => a + b);

23. **What is the result of the following expression in JavaScript?**

    [[0, 1], [2, 3], [4, 5]].reduce((a, b) => a.concat(b));

24. **Given a roster of students in an array, write a JavaScript function that returns an html list of students (name and misterm score) whose gpa is > 3.0, such that the list is sorted by midterm score.**

    let roster = [{name: “Mary Smith”, gpa: 3.7, midterm: 80}, {name: “Xi Chen”, gpa: 3.5, midterm: 85}, {name: “Alessandro Reis”, gpa: 3.2, midterm: 74}, {name: “Erin Senda”, gpa: 3.0, midterm: 68}];