**JavaScript Basic Questions ?**

**What is the best way to add j.s file in HTML file?**

**Whenever we run our web page through live server. HTML file goes to browser**

**And browser parse(read) HTML file line by line.**

**1 Way**

**We can link script file in HTML Head section.**

**//Browser Start parsing HTML file line by line**

**Parsing Start from 1 and so on. When control of parsing go to 8th line browser stop the parsing and first load j.s file then start the execution of j.s file. when j.s file start the execution browser find the element of HTML which are used in j.s but browser did not get HTML element because parsing is stooped. That why browser through error.**

1. <!DOCTYPE html>
2. <html lang="en">
3. <head>
4. <meta charset="UTF-8">
5. <meta name="viewport" content="width=device-width, initial-scale=1.0">
6. <title>Document</title>

// link script file head section

1. <script src="script.js"></script>
2. </head>
3. <body>
4. <!-- header section -->
5. <header>
6. <a href="#" class="logo"><img src="img/logo.png"alt="logo"></a>
7. <ul class="navbar">
8. <li><a href="#home">Home</a></li>
9. <li><a href="#about">About</a></li>
10. <li><a href="#menu">Menu</a></li>
11. <li><a href="#contact">Contact</a></li>
12. </ul>
13. <div class="h-icons">
14. <a href="#"><i class='bx bx-search' ></i></a>
15. <a href="#"><i class='bx bx-cart' ></i></a>
16. <div class="bx bx-menu" id="menu-icon"></div>
17. </div>
18. </header>
19. </body>
20. </html>

**2 Way**

**We can link script file in HTML bottom of the body .**

**//Browser Start parsing HTML file line by line**

**Parsing Start from 28 and so on. When control of parsing go to 53th line browser stop the parsing and load j.s file then start the execution of j.s file. when j.s file start the execution browser find the element of HTML which are used in j.s. browser get all HTML elements which are used in js . because parsing is finished before the execution of js file. That why browser execute js file without any error.**

**This way also takes so many times(because it perform like sync)**

* **First takes parsing time of hole HTML file**
* **Second takes loading time of j.s file**
* **Third takes executing time of j.s file**

**but we can also improve the web performances through another way like Async.**

1. <!DOCTYPE html>
2. <html lang="en">
3. <head>
4. <meta charset="UTF-8">
5. <meta name="viewport" content="width=device-width, initial-scale=1.0">
6. <title>Document</title>
7. // link script file head section
8. </head>
9. <body>
10. <header>
11. <a href="#" class="logo"><img src="img/logo.png"alt="logo"></a>
12. <ul class="navbar">
13. <li><a href="#home">Home</a></li>
14. <li><a href="#about">About</a></li>
15. <li><a href="#menu">Menu</a></li>
16. <li><a href="#contact">Contact</a></li>
17. </ul>
18. <div class="h-icons">
19. <a href="#"><i class='bx bx-search' ></i></a>
20. <a href="#"><i class='bx bx-cart' ></i></a>
21. <div class="bx bx-menu" id="menu-icon"></div>
22. </div>
23. </header>
24. // Link script file in the bottom of body
25. <script src="script.js"></script>
26. </body>
27. </html>

**3. Way**

**We can link script file in HTML head using async.**

**//Browser Start parsing HTML file line by line**

**but we can also improve the web performances through another way like Async.**

**Parsing HTML file and load j.s at once if i use async . but once finish the loading of j.s file parsing stop no matter parsing of HTML file is finessed or not and start execution of j.s file. In that case browser also through the error. Because may be browser try to execute HTML element which are not parse.**

1. <!DOCTYPE html>
2. <html lang="en">
3. <head>
4. <meta charset="UTF-8">
5. <meta name="viewport" content="width=device-width, initial-scale=1.0">
6. <title>Document</title>
7. <script src="script.js" async></script>
8. </head>
9. <body>
10. <header>
11. <ul class="navbar">
12. <li><a href="#home">Home</a></li>
13. <li><a href="#about">About</a></li>
14. <li><a href="#menu">Menu</a></li>
15. <li><a href="#contact">Contact</a></li>
16. </ul>
17. <div class="h-icons">
18. <a href="#"><i class='bx bx-search' ></i></a>
19. <a href="#"><i class='bx bx-cart' ></i></a>
20. <div class="bx bx-menu" id="menu-icon"></div>
21. </div>
22. </header>
23. </body>
24. </html>

**4. Way**

**We can link script file in HTML head using defer.**

**//Browser Start parsing HTML file line by line**

**but we can also improve the web performances through another way like defer.**

**Parsing HTML file and load j.s at once if i use defer . when finish the loading of j.s file. Execution of js file is Wait for parsing the html file once finished the parsing the html file then start the execution of js file.**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script src="script.js" defer></script>

</head>

<body>

    <!-- header section -->

    <header>

        <!-- <a href="#" class="logo">Food<span>Fun</span></a> -->

        <a href="#" class="logo"><img src="img/logo.png" alt="logo"></a>

        <ul class="navbar">

            <li><a href="#home">Home</a></li>

            <li><a href="#about">About</a></li>

            <li><a href="#menu">Menu</a></li>

            <li><a href="#contact">Contact</a></li>

        </ul>

        <div class="h-icons">

            <a href="#"><i class='bx bx-search' ></i></a>

            <a href="#"><i class='bx bx-cart' ></i></a>

            <div class="bx bx-menu" id="menu-icon"></div>

        </div>

    </header>

</body>

</html>