FSD Lab Program - 4

Title: Write Java script program to demonstrate event delegation and DOM manipulation.

Problem description: Consider an HTML file with <Ul> as parent and <li> element as child elements. Let <Ul> handle events that occur on <li>. Perform the operations like creating node, removing the node, accessing the node etc.

Method: Add event listener to <Ul> element. Use event object to know which <li> generated event.

```html
<!DOCTYPE html>
<html>
<head>
 <title>Event Delegation & DOM Manipulation</title>
 <style>
          li
          {
                  cursor: pointer;
                  margin: 5px;
                  padding: 5px;
                   background: #eee;
          }
 </style>
</head>
<body>
 <h2>Event Delegation & DOM Manipulation Example</h2>

 <ul id="parentList">
        <li>Item 1</li>
        <li>Item 2</li>
        <li>Item 3</li>
 </ul>

 <button id="addBtn">Add Item</button>
 <button id="removeBtn">Remove Last Item</button>
 <button id="accessBtn">Access 1st Item</button>

 <p id="output"></p>

 <script>
  const parentList = document.getElementById("parentList");
  const output = document.getElementById("output");

  // Event Delegation: parent <ul> handles clicks on <li>
  parentList.addEventListener("click", function(event) {
   if (event.target && event.target.nodeName === "LI")
  {
     output.textContent = "You clicked on: " + event.target.textContent;
   }
  });

  // Create node
  document.getElementById("addBtn").addEventListener("click", function() {
   let newItem = document.createElement("li");
   newItem.textContent = "New Item " + (parentList.children.length + 1);
   parentList.appendChild(newItem);
 });
```

```javascript
    // Remove node
    document.getElementById("removeBtn").addEventListener("click", function() {
     if (parentList.lastElementChild)
    {
       parentList.removeChild(parentList.lastElementChild);
     }
     else
    {
       output.textContent = "No items left to remove!";
     }
    });

    // Access node
    document.getElementById("accessBtn").addEventListener("click", function() {
     if (parentList.firstElementChild)
    {
       output.textContent = "First item is: " + parentList.firstElementChild.textContent;
     }
     else
    {
       output.textContent = "List is empty!";
     }
    });
  </script>

</body>
</html>
```