NODEJS ASSIGNMENT

ASSIGNMENT 2

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Course: BTECH CSE (FULL STACK DEVELOPMENT)

Question 1. Do the following operations:
(a) Print the length of the buffer on the console.
(b) Print the 6th and 8th index values
(c) Modify the value at index 2 (change the number 89 to 23) and then print the modified buffer on the console.

```
const buffer1 = Buffer.from([10, 20, 89, 43, 50, 67, 70, 86, 90, 88]);
console.log("Length of buffer: "+ buffer1.length);

console.log(buffer1[6]);
console.log(buffer1[8]);

buffer1[2]= 23;
console.log(buffer1);
console.log(buffer1[2]);

// Create a buffer with sample data
const buffer = Buffer.from([65, 66, 89, 68, 69, 70, 71, 72, 73, 80]);

// (a) Print the length of the buffer on the console
console.log("Length of the buffer:", buffer.length);

// (b) Print the 6th and 8th index values
console.log("Value at 6th index:", buffer[6]); // ASCII value for 'G'
console.log("Value at 8th index:", buffer[8]); // ASCII value for 'I'

// (c) Modify the value at index 2 (change 89 to 23)
buffer[2] = 23;

// Print the modified buffer
console.log("Modified buffer:", buffer);
console.log(buffer[2]);
console.log("Modified buffer as string:", buffer.toString());
```

OUTPUT:

Length of buffer: 10

70

90

<Buffer 0a 14 17 2b 32 43 46 56 5a 58>

23

Length of the buffer: 10

Value at 6th index: 71

Value at 8th index: 73

Modified buffer: <Buffer 41 42 17 44 45 46 47 48 49 50>

23

Modified buffer as string: AB↕DEFGHIP

Question 2. Create a program in Node js to create a buffer of size 100. You need to write a string "We are learning buffer module today and enjoying" and then you need to read and print the contents of the buffer.

```
// Create a buffer of size 100
const buffer = Buffer.alloc(100);

// Write a string to the buffer
const string = "We are learning buffer module today and enjoying";
buffer.write(string);

// Read and print the contents of the buffer
// Convert the buffer to a string and print it
console.log("Buffer Contents:", buffer.toString());
```

OUTPUT:

Buffer Contents: We are learning buffer module today and enjoying

Question 3. Create a program in Node js to create two buffers with the strings "JavaScript is easy" and "We are learning and understanding". You need to add them together or concatenate them into a single buffer and find the total length of the final buffer also print them on console. Also try to slice the value of the final buffer and extract word "easy" from it. Also convert back to string again..

```
// Create two buffers with the given strings
const buffer1 = Buffer.from("JavaScript is easy");
const buffer2 = Buffer.from(" We are learning and understanding");

// Concatenate the two buffers
const combinedBuffer = Buffer.concat([buffer1, buffer2]);

// Print the concatenated buffer
console.log("Combined Buffer:", combinedBuffer.toString());

// Find and print the total length of the final buffer
console.log("Total Length of Combined Buffer:", combinedBuffer.length);

// Slice the buffer to extract the word "easy"
const extractedBuffer = combinedBuffer.slice(14, 18); // "easy" starts at
index 15 and ends at index 19

// Print the extracted part
console.log("Extracted Word:", extractedBuffer.toString());

// Convert the entire buffer back to string and print
console.log("Combined Buffer as String:", combinedBuffer.toString());
```

OUTPUT:

Combined Buffer: JavaScript is easy We are learning and understanding

Total Length of Combined Buffer: 52

Extracted Word: easy

Combined Buffer as String: JavaScript is easy We are learning and understanding

Question 4. Write a program in which you are given a buffer with a string "Our exams are coming and we are preparing for it". Design a function to find the starting index of the substring "coming" within the buffer. If the substring "coming" is not there in the buffer or does not exist, return -1.

```
function findSubstring(buffer, sub) {
  const bufferString = buffer.toString();
  // sequentially take sub.length character substrings from bufferString
and compare with sub
  for (let i = 0; i <= bufferString.length - sub.length; i++) {
    let j;

    for (j = 0; j < sub.length; j++) {
      if (bufferString[i + j] !== sub[j]) {
        break;
      }
    }

    if (j === sub.length) {
      // if taken substring matches with sub exactly
      // substring found at index i
      return i;
    }
  }
  // substring not found
  return -1;
}

const buffer = Buffer.from("Our exams are coming and we are preparing for
it");
console.log(findSubstring(buffer, "coming"));
```

OUTPUT:

14
