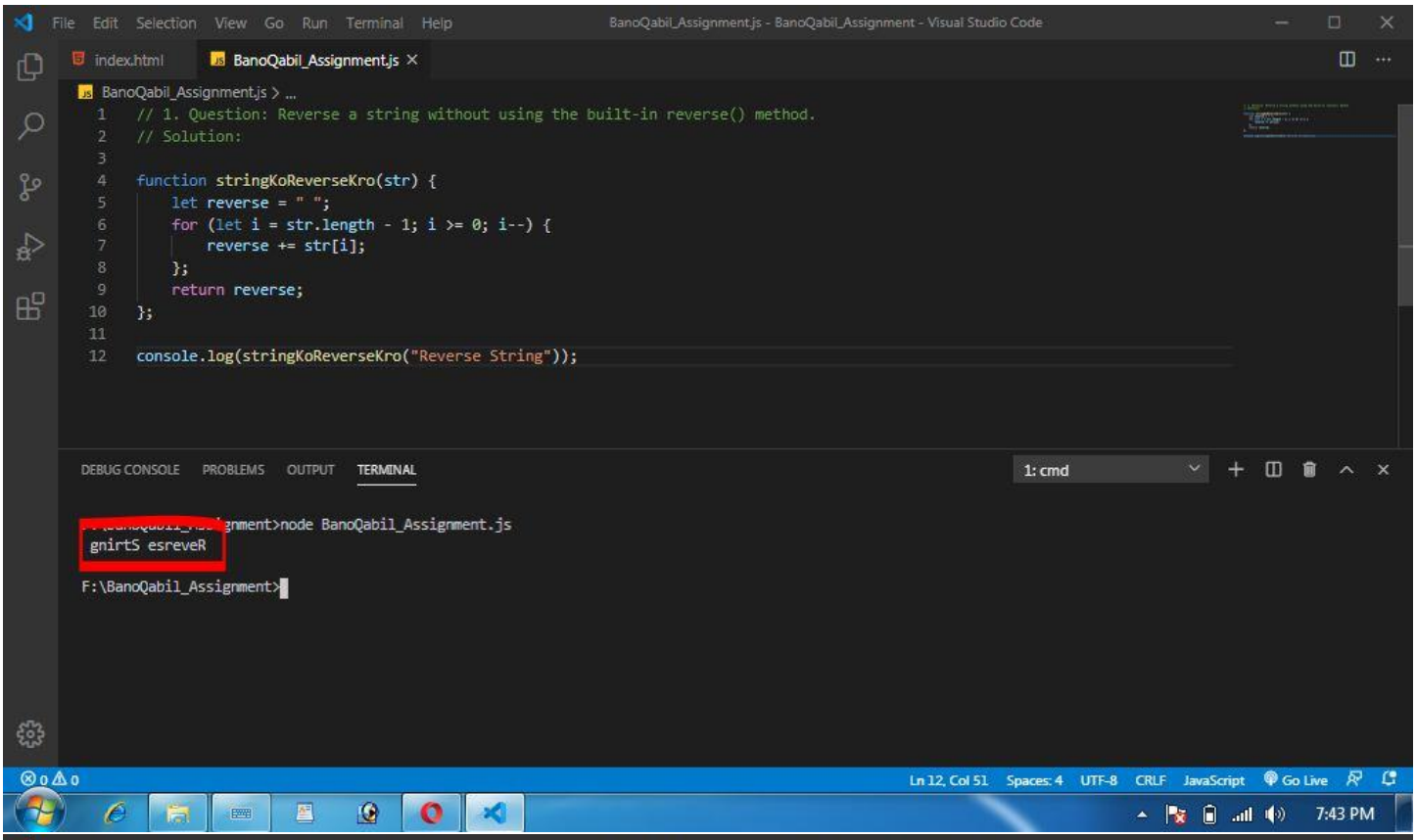
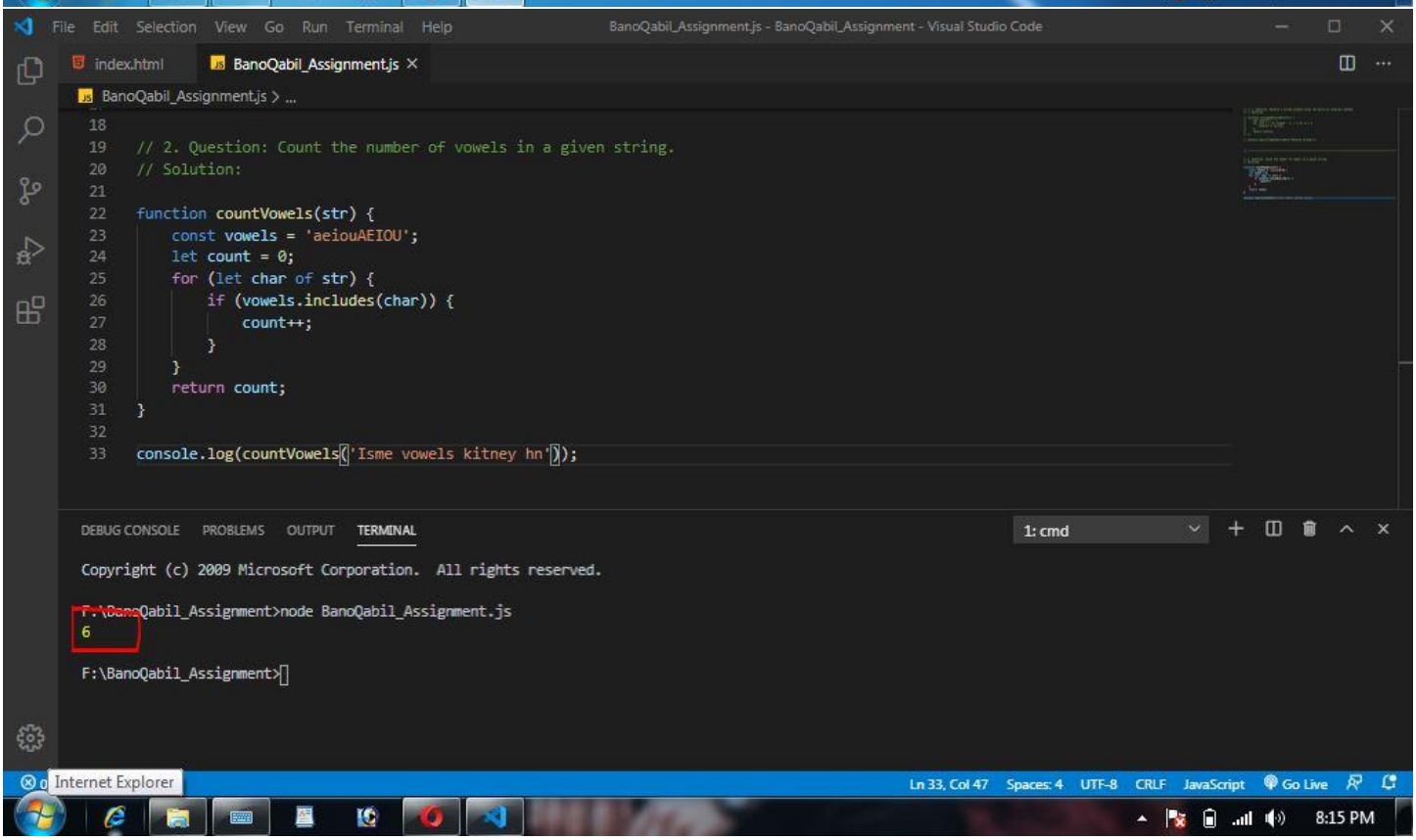
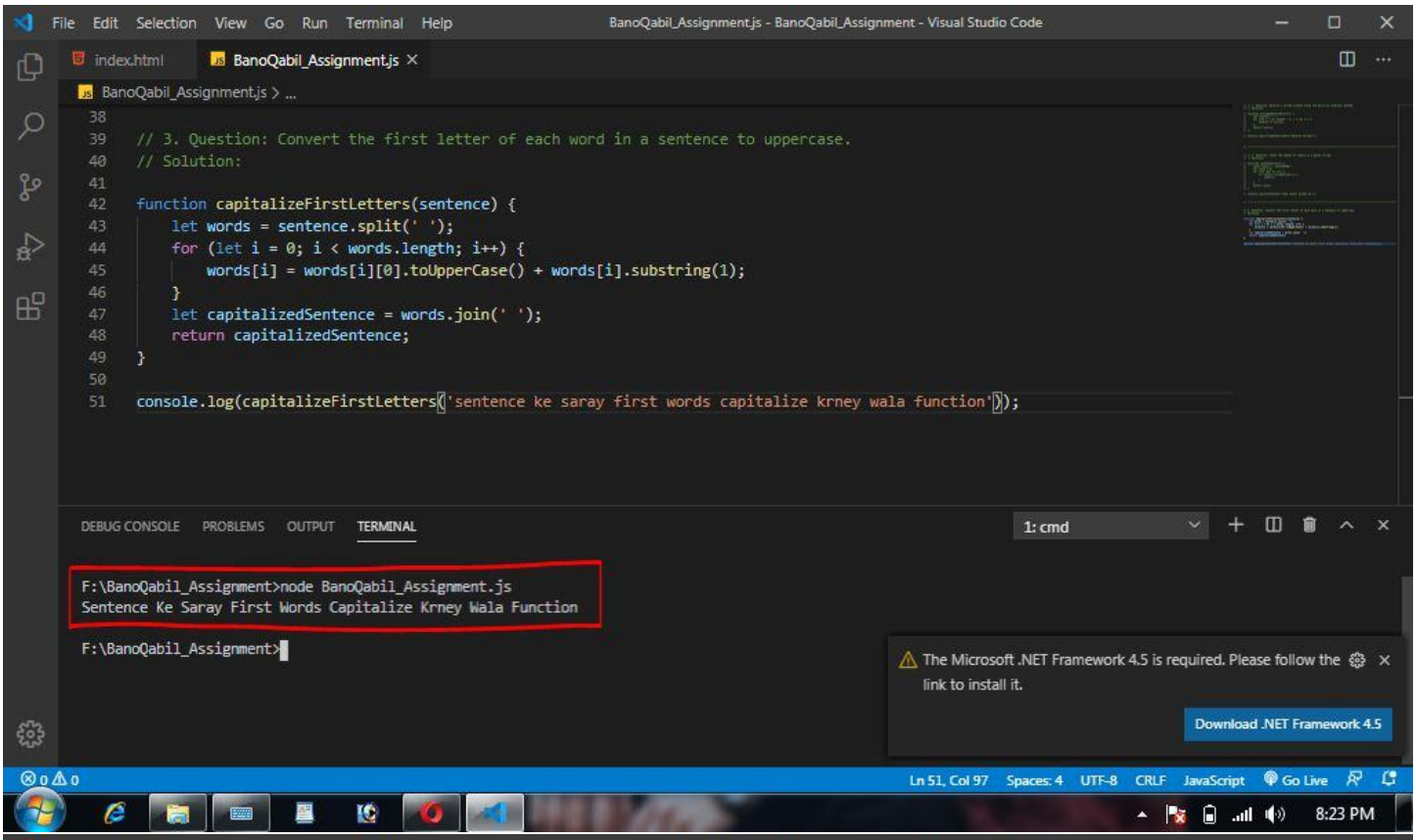
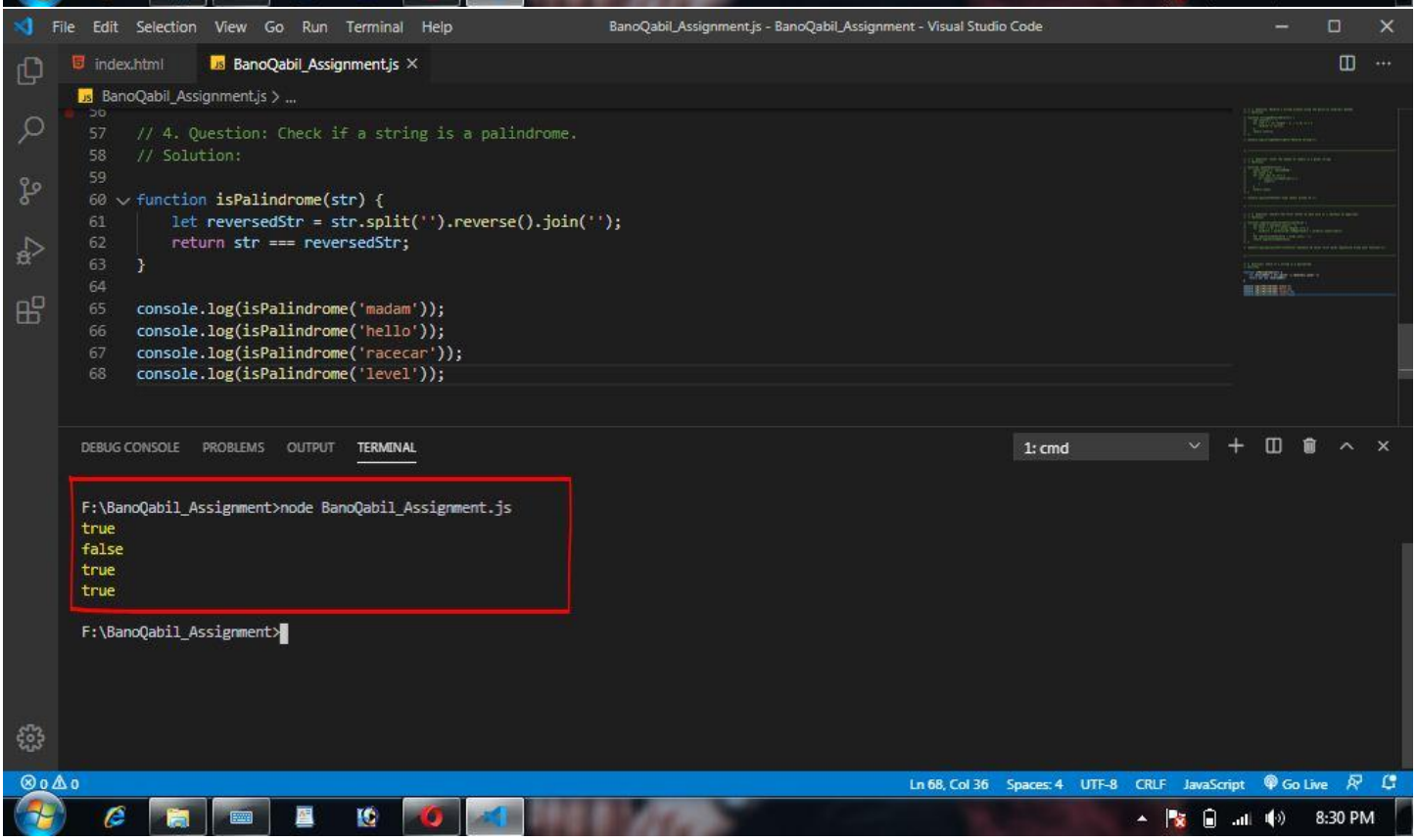
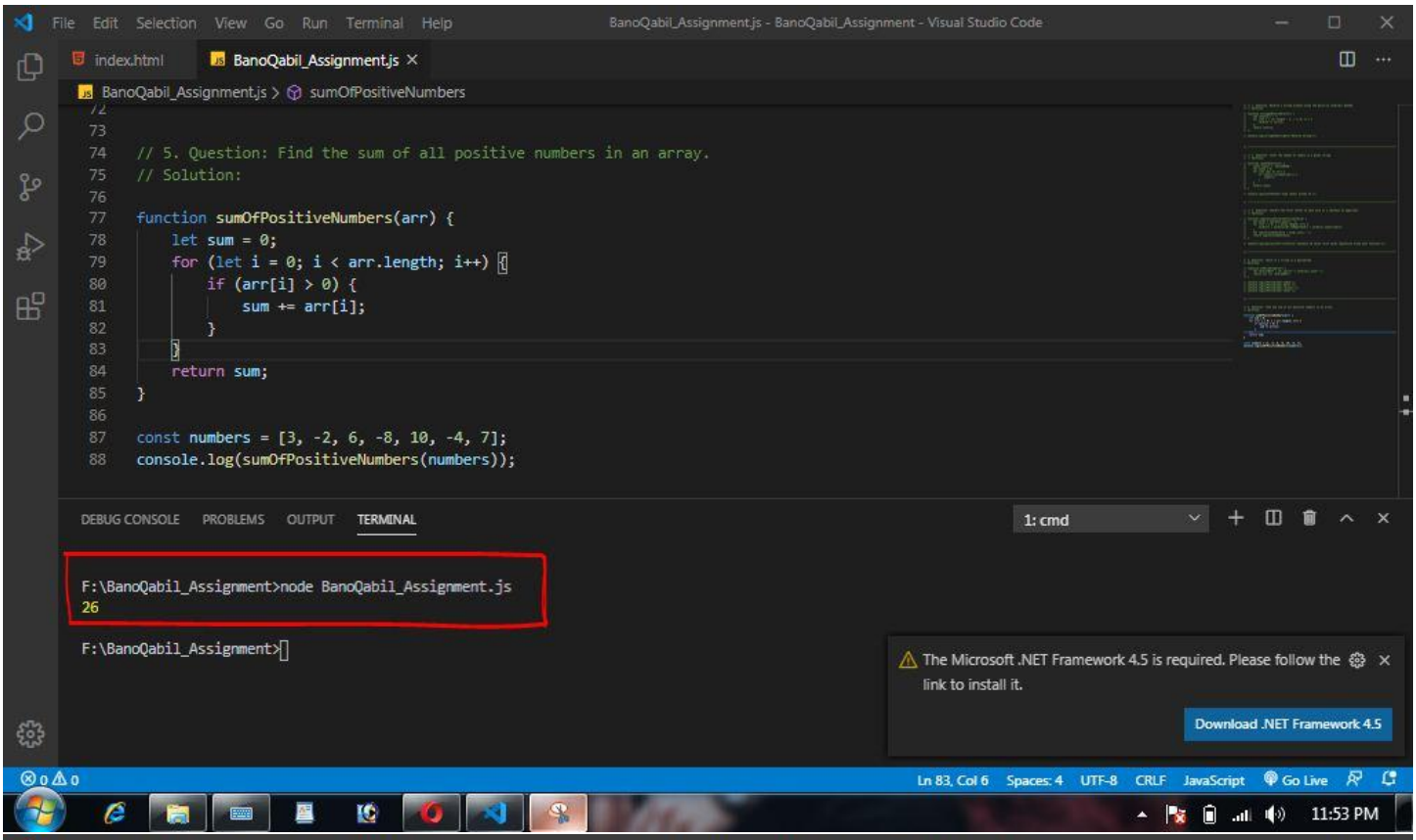
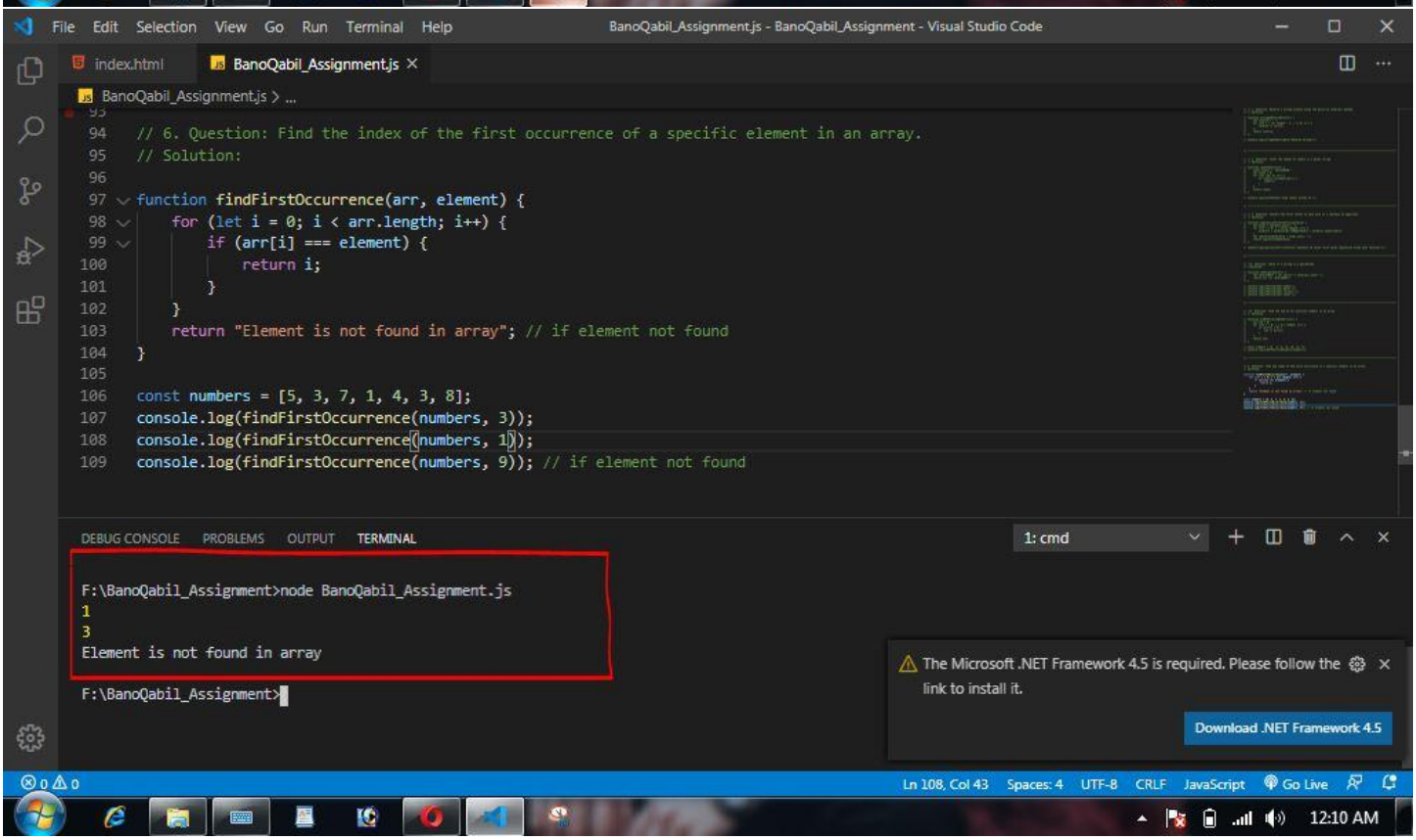

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
1 // 1. Question: Reverse a string without using the built-in reverse() method.
2 // Solution:
3
4 function stringKoReverseKro(str) {
5 let reverse = " ";
6 for (let i = str.length - 1; i >= 0; i--) {
7 reverse += str[i];
8 };
9 return reverse;
10 };
11
12 console.log(stringKoReverseKro("Reverse String"));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
gnment>node BanoQabil_Assignment.js
gnirtS esreveR
F:\BanoQabil_Assignment>
Ln 12, Col 51 Spaces: 4 UTF-8 CRLF JavaScript Go Live
7:43 PM

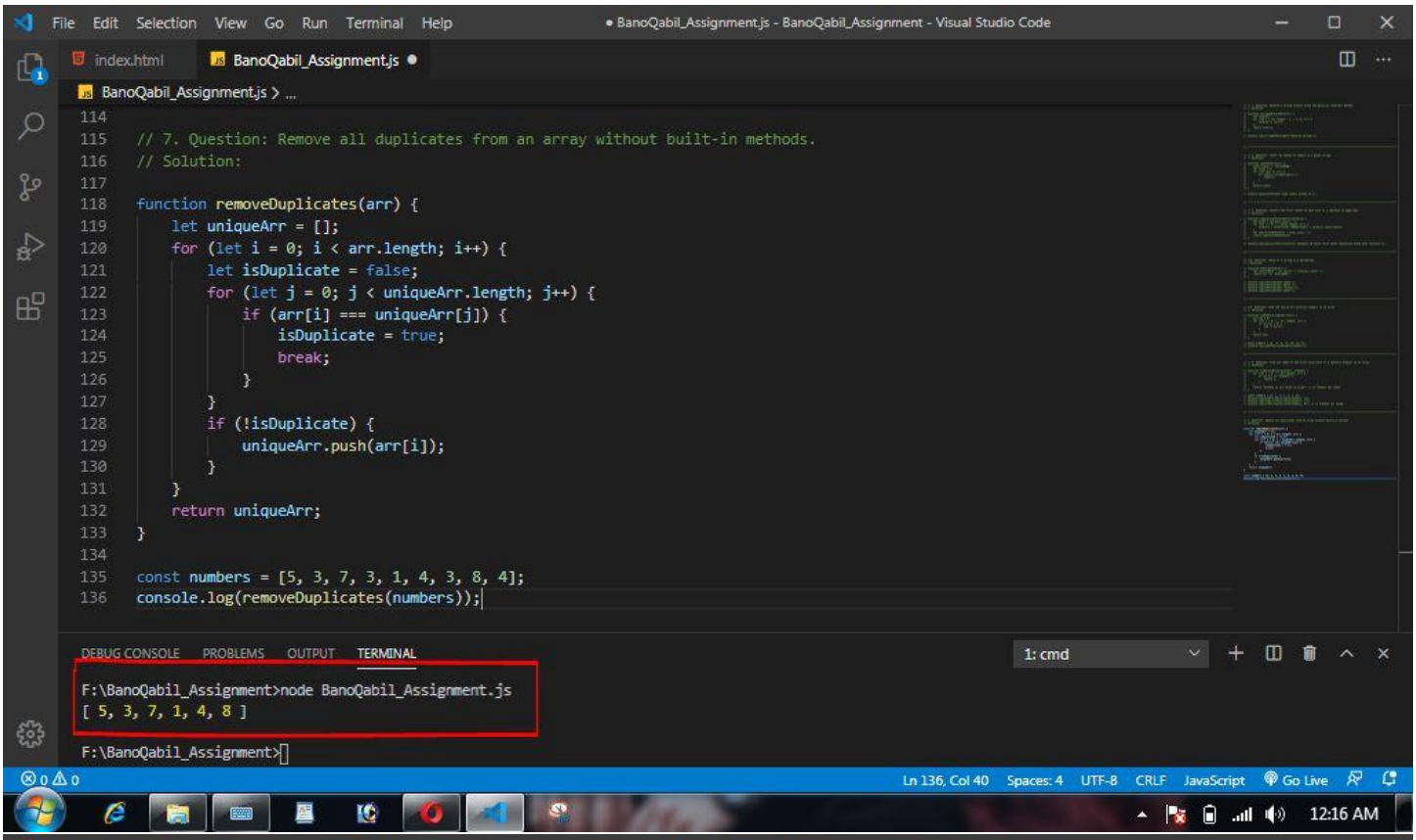

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
18
19 // 2. Question: Count the number of vowels in a given string.
20 // Solution:
21
22 function countVowels(str) {
23 const vowels = 'aeiouAEIOU';
24 let count = 0;
25 for (let char of str) {
26 if (vowels.includes(char)) {
27 count++;
28 }
29 }
30 return count;
31 }
32
33 console.log(countVowels('Isme vowels kitney hn'));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
6
F:\BanoQabil_Assignment>
Internet Explorer
Ln 33, Col 47 Spaces: 4 UTF-8 CRLF JavaScript Go Live
8:15 PM

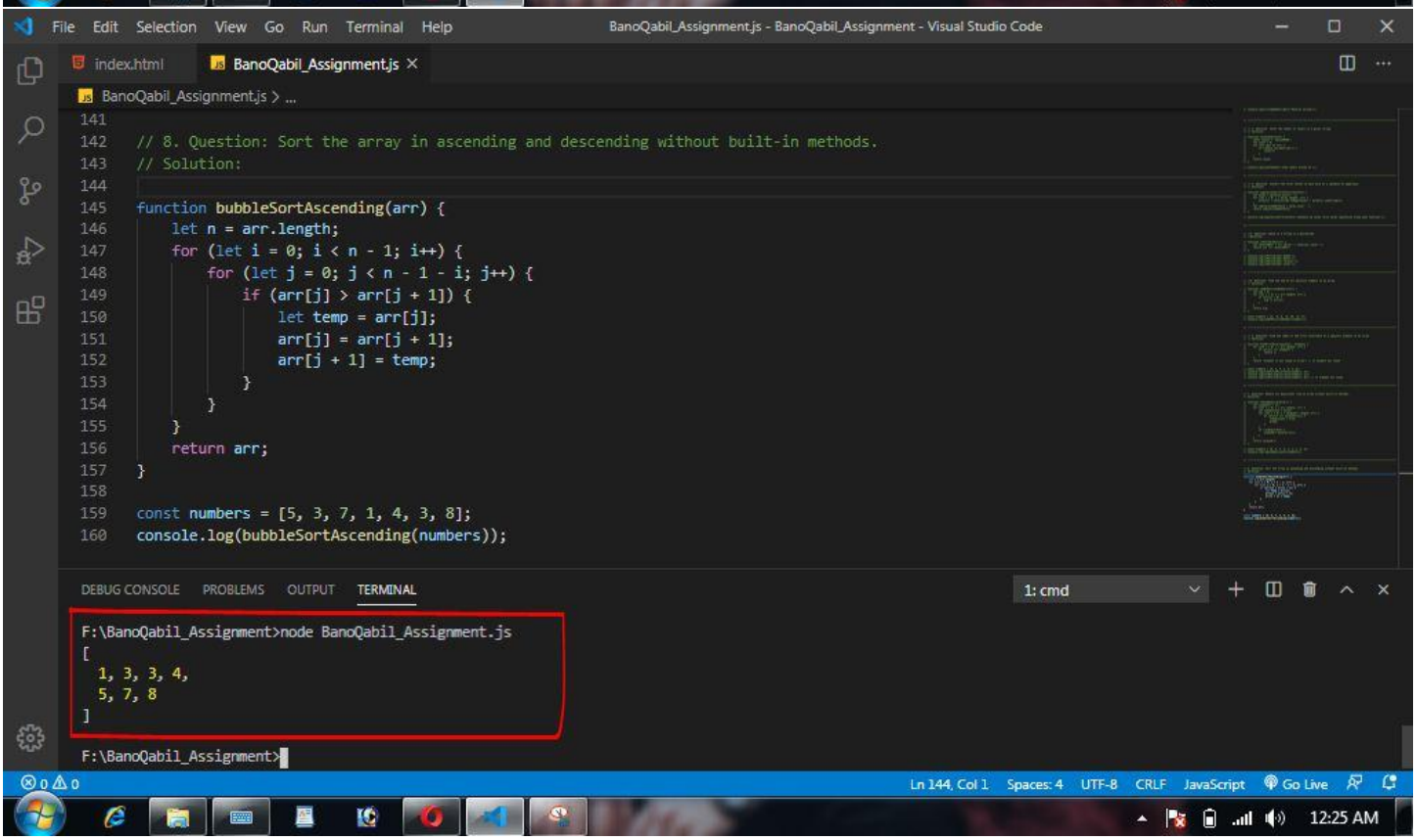

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
38
39 // 3. Question: Convert the first letter of each word in a sentence to uppercase.
40 // Solution:
41
42 function capitalizeFirstLetters(sentence) {
43 let words = sentence.split(' ');
44 for (let i = 0; i < words.length; i++) {
45 words[i] = words[i][0].toUpperCase() + words[i].substring(1);
46 }
47 let capitalizedSentence = words.join(' ');
48 return capitalizedSentence;
49 }
50
51 console.log(capitalizeFirstLetters('sentence ke saray first words capitalize krney wala function'));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
Sentence Ke Saray First Words Capitalize Krney Wala Function
F:\BanoQabil_Assignment>
The Microsoft .NET Framework 4.5 is required. Please follow the link to install it.
Download .NET Framework 4.5
Ln 51, Col 97 Spaces: 4 UTF-8 CRLF JavaScript Go Live
8:23 PM

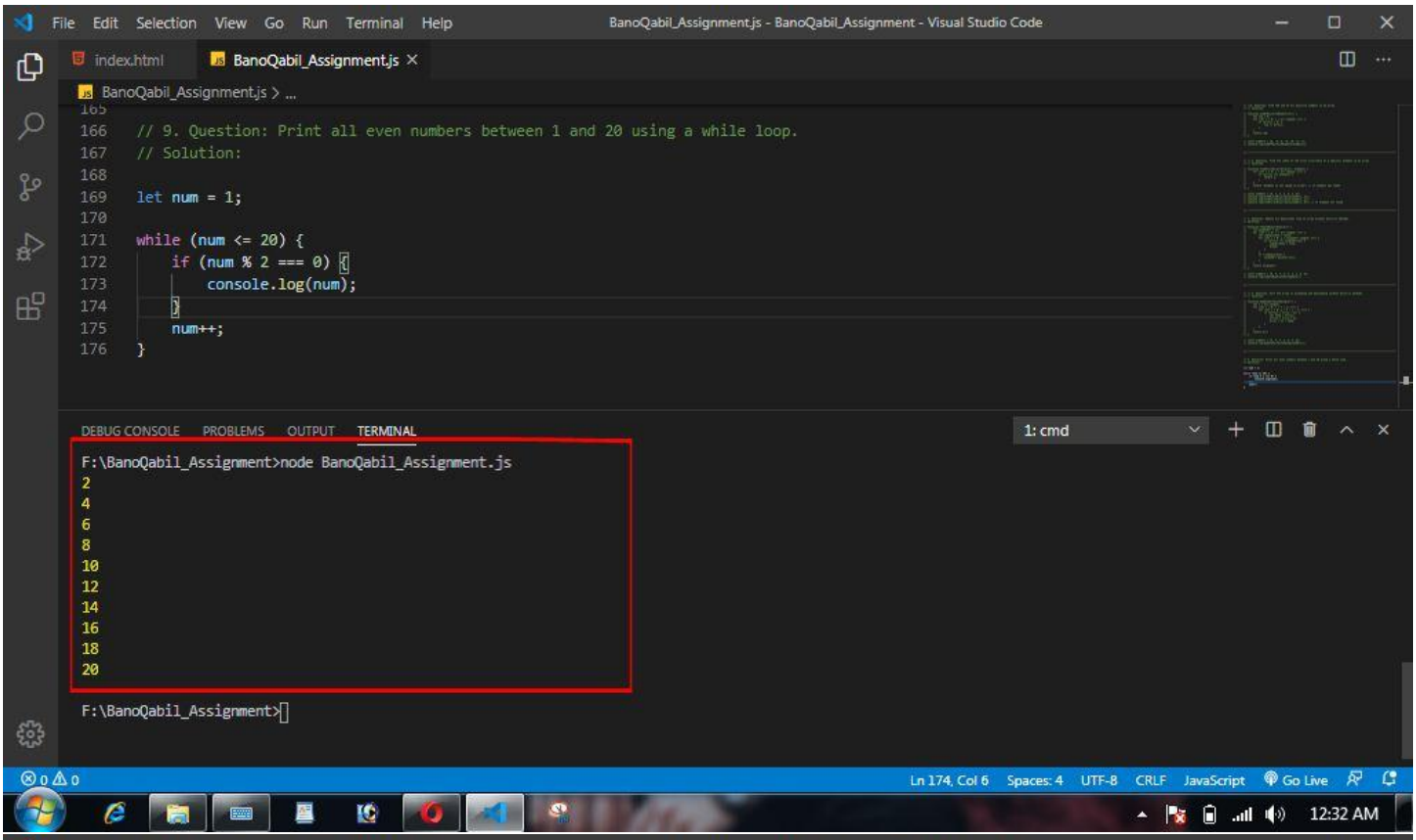

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
57 // 4. Question: Check if a string is a palindrome.
58 // Solution:
59
60 function isPalindrome(str) {
61 let reversedStr = str.split('').reverse().join('');
62 return str === reversedStr;
63 }
64
65 console.log(isPalindrome('madam'));
66 console.log(isPalindrome('hello'));
67 console.log(isPalindrome('racecar'));
68 console.log(isPalindrome('level'));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
true
false
true
true
F:\BanoQabil_Assignment>
Ln 68, Col 36 Spaces: 4 UTF-8 CRLF JavaScript Go Live
8:30 PM

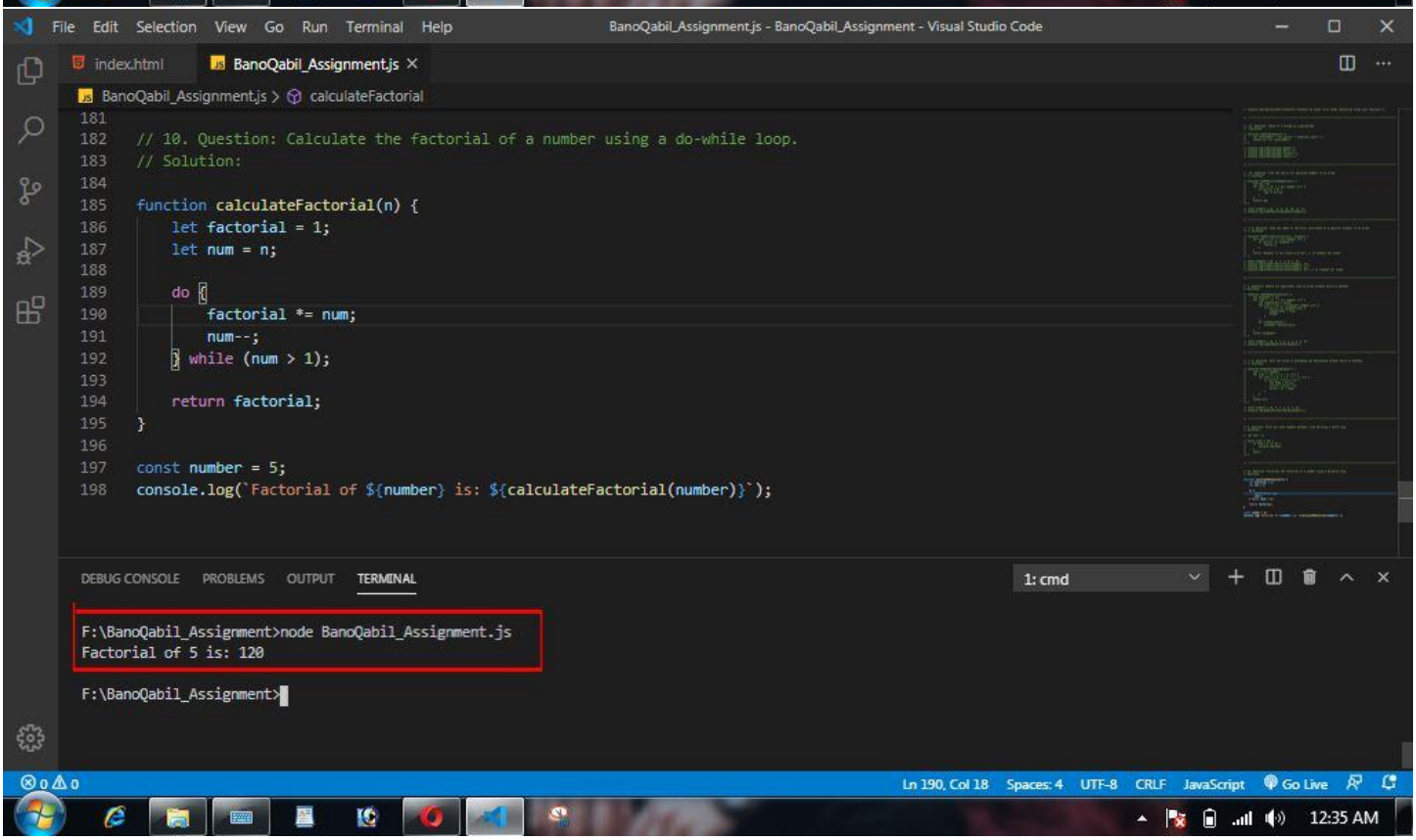

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > sumOfPositiveNumbers
// 5. Question: Find the sum of all positive numbers in an array.
// Solution:
function sumOfPositiveNumbers(arr) {
let sum = 0;
for (let i = 0; i < arr.length; i++) {
if (arr[i] > 0) {
sum += arr[i];
}
}
return sum;
}
const numbers = [3, -2, 6, -8, 10, -4, 7];
console.log(sumOfPositiveNumbers(numbers));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
26
F:\BanoQabil_Assignment>
The Microsoft .NET Framework 4.5 is required. Please follow the link to install it.
Download .NET Framework 4.5
Ln 83, Col 6 Spaces: 4 UTF-8 CRLF JavaScript Go Live
11:53 PM

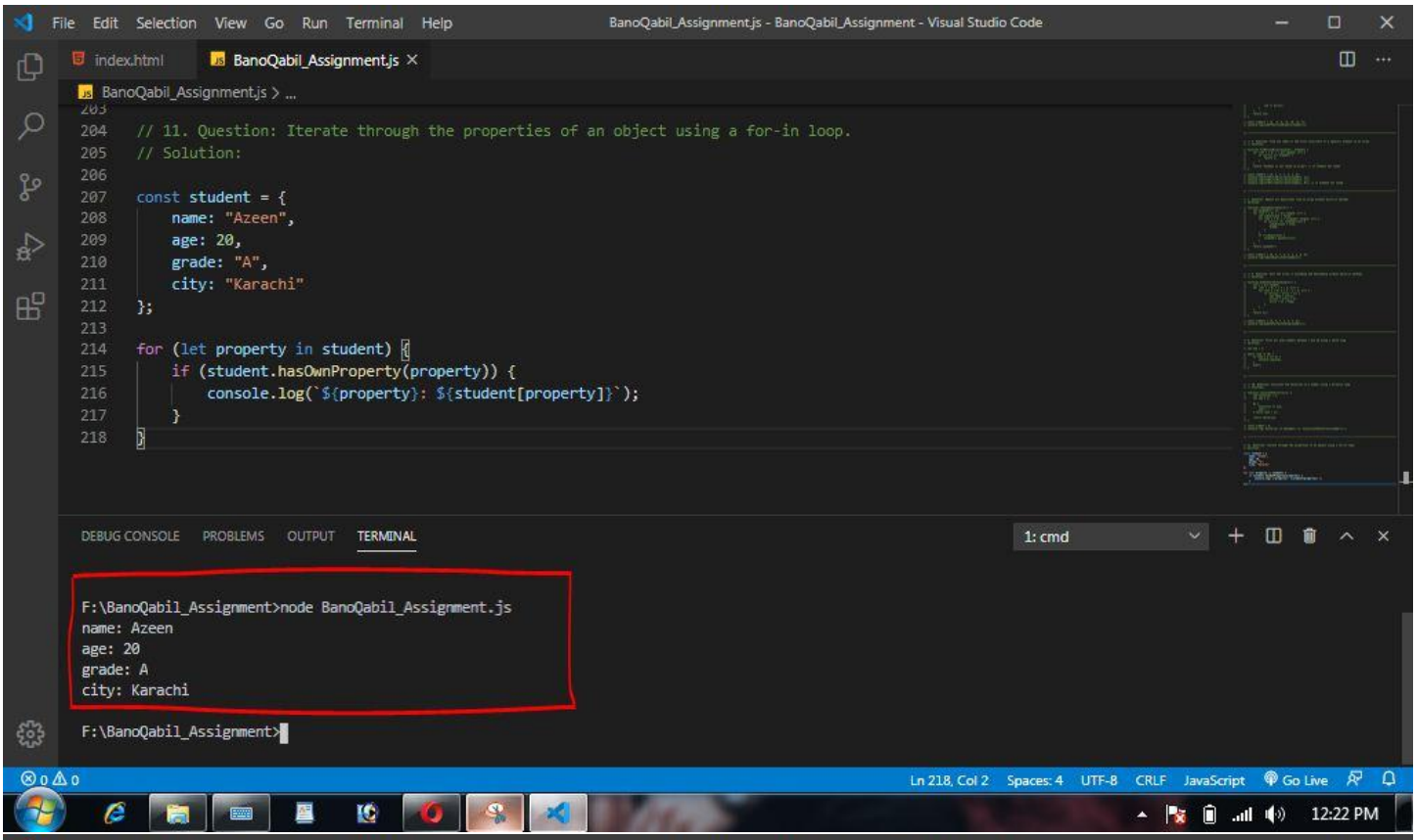

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
// 6. Question: Find the index of the first occurrence of a specific element in an array.
// Solution:
function findFirstOccurrence(arr, element) {
for (let i = 0; i < arr.length; i++) {
if (arr[i] === element) {
return i;
}
}
return "Element is not found in array"; // if element not found
}
const numbers = [5, 3, 7, 1, 4, 3, 8];
console.log(findFirstOccurrence(numbers, 3));
console.log(findFirstOccurrence(numbers, 1));
console.log(findFirstOccurrence(numbers, 9)); // if element not found
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
1
3
Element is not found in array
F:\BanoQabil_Assignment>
The Microsoft .NET Framework 4.5 is required. Please follow the link to install it.
Download .NET Framework 4.5
Ln 108, Col 43 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:10 AM

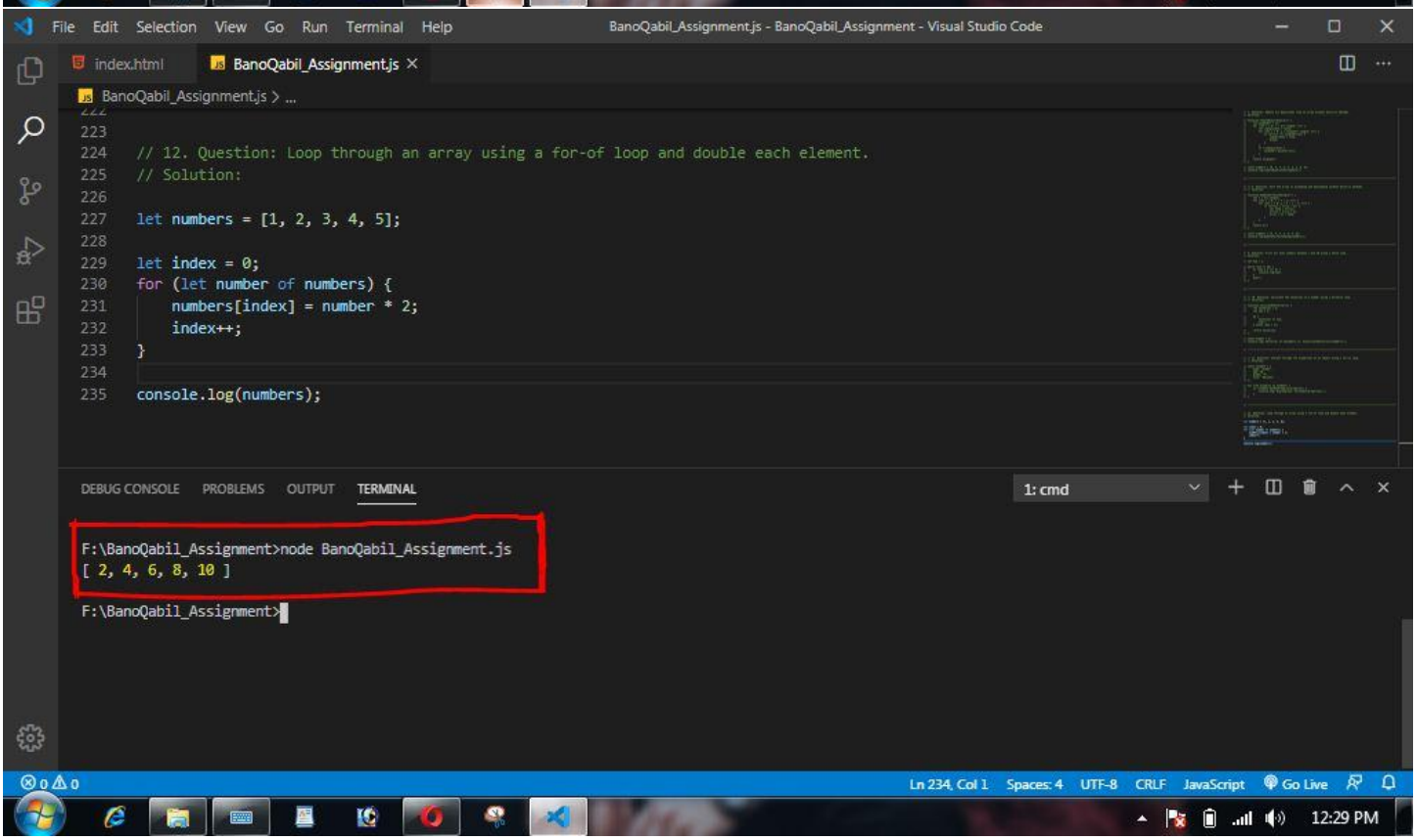

File Edit Selection View Go Run Terminal Help
• BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js •
BanoQabil_Assignment.js > ...
114
115 // 7. Question: Remove all duplicates from an array without built-in methods.
116 // Solution:
117
118 function removeDuplicates(arr) {
119 let uniqueArr = [];
120 for (let i = 0; i < arr.length; i++) {
121 let isDuplicate = false;
122 for (let j = 0; j < uniqueArr.length; j++) {
123 if (arr[i] === uniqueArr[j]) {
124 isDuplicate = true;
125 break;
126 }
127 }
128 if (!isDuplicate) {
129 uniqueArr.push(arr[i]);
130 }
131 }
132 return uniqueArr;
133 }
134
135 const numbers = [5, 3, 7, 3, 1, 4, 3, 8, 4];
136 console.log(removeDuplicates(numbers));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[5, 3, 7, 1, 4, 8]
F:\BanoQabil_Assignment>
Ln 136, Col 40 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:16 AM

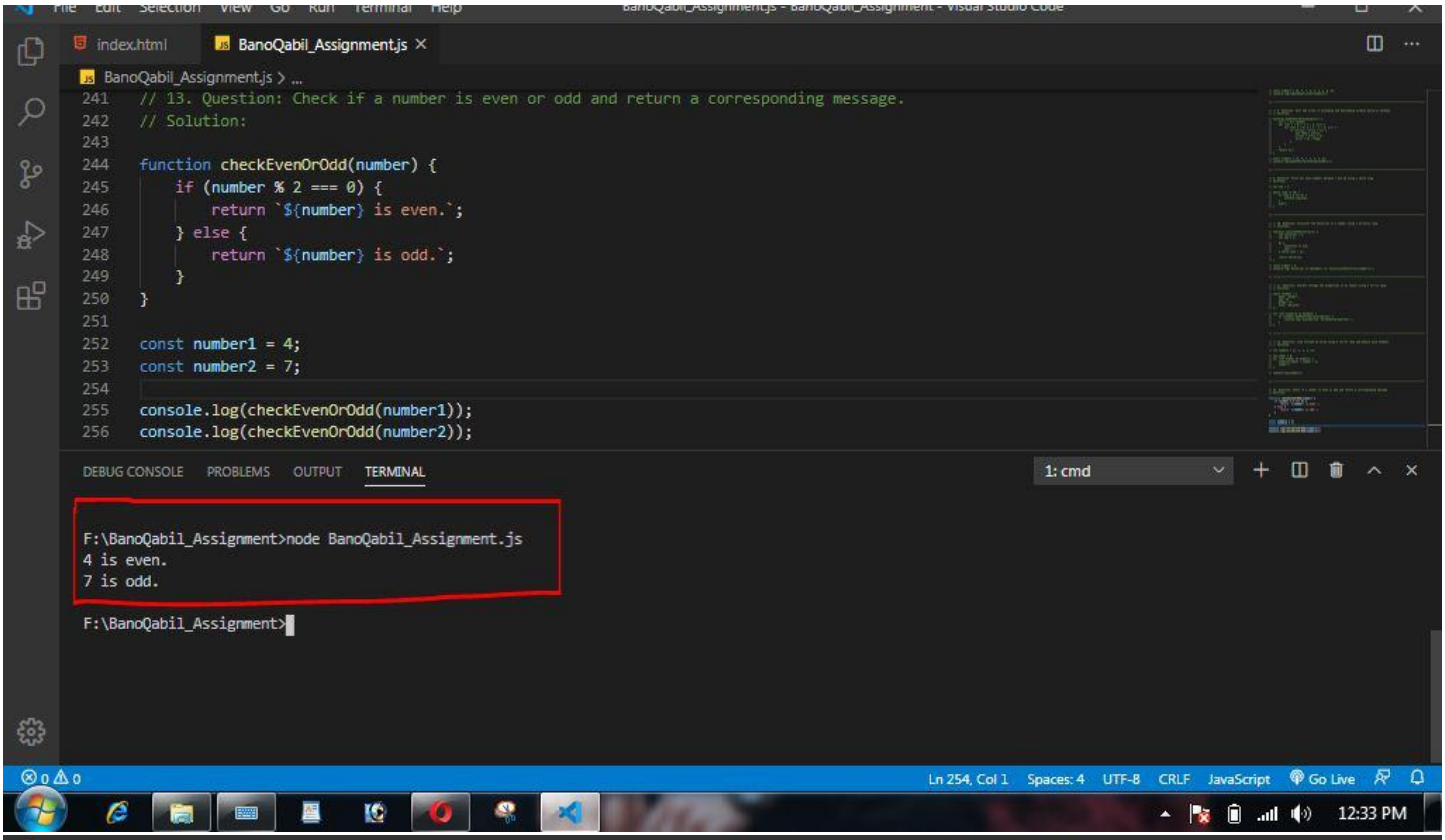

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js ×
BanoQabil_Assignment.js > ...
141
142 // 8. Question: Sort the array in ascending and descending without built-in methods.
143 // Solution:
144
145 function bubbleSortAscending(arr) {
146 let n = arr.length;
147 for (let i = 0; i < n - 1; i++) {
148 for (let j = 0; j < n - 1 - i; j++) {
149 if (arr[j] > arr[j + 1]) {
150 let temp = arr[j];
151 arr[j] = arr[j + 1];
152 arr[j + 1] = temp;
153 }
154 }
155 }
156 return arr;
157 }
158
159 const numbers = [5, 3, 7, 1, 4, 3, 8];
160 console.log(bubbleSortAscending(numbers));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[
1, 3, 3, 4,
5, 7, 8
]
F:\BanoQabil_Assignment>
Ln 144, Col 1 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:25 AM

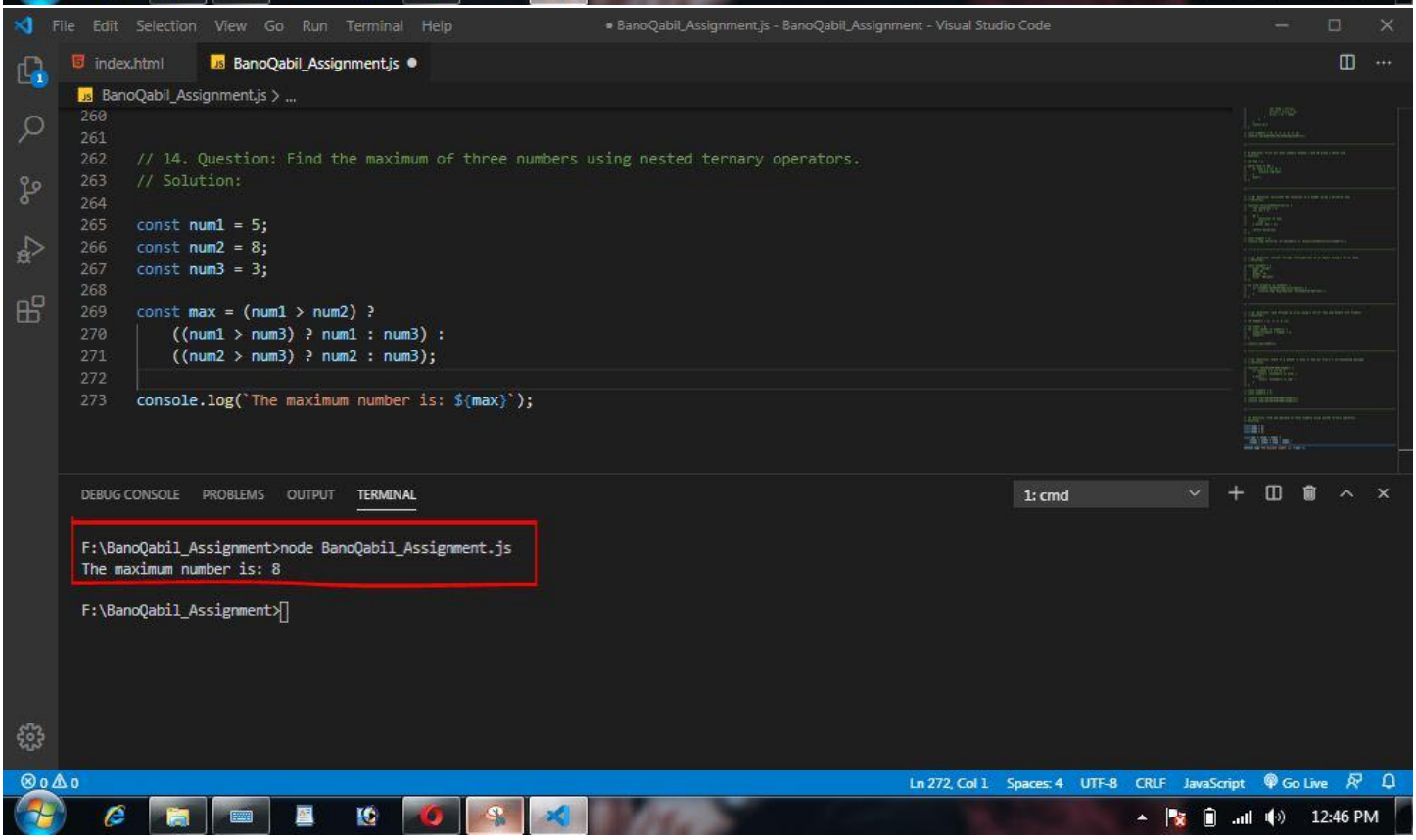

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
// 9. Question: Print all even numbers between 1 and 20 using a while loop.
// Solution:
let num = 1;
while (num <= 20) {
if (num % 2 === 0) {
console.log(num);
}
num++;
}
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
2
4
6
8
10
12
14
16
18
20
F:\BanoQabil_Assignment>
Ln 174, Col 6 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:32 AM

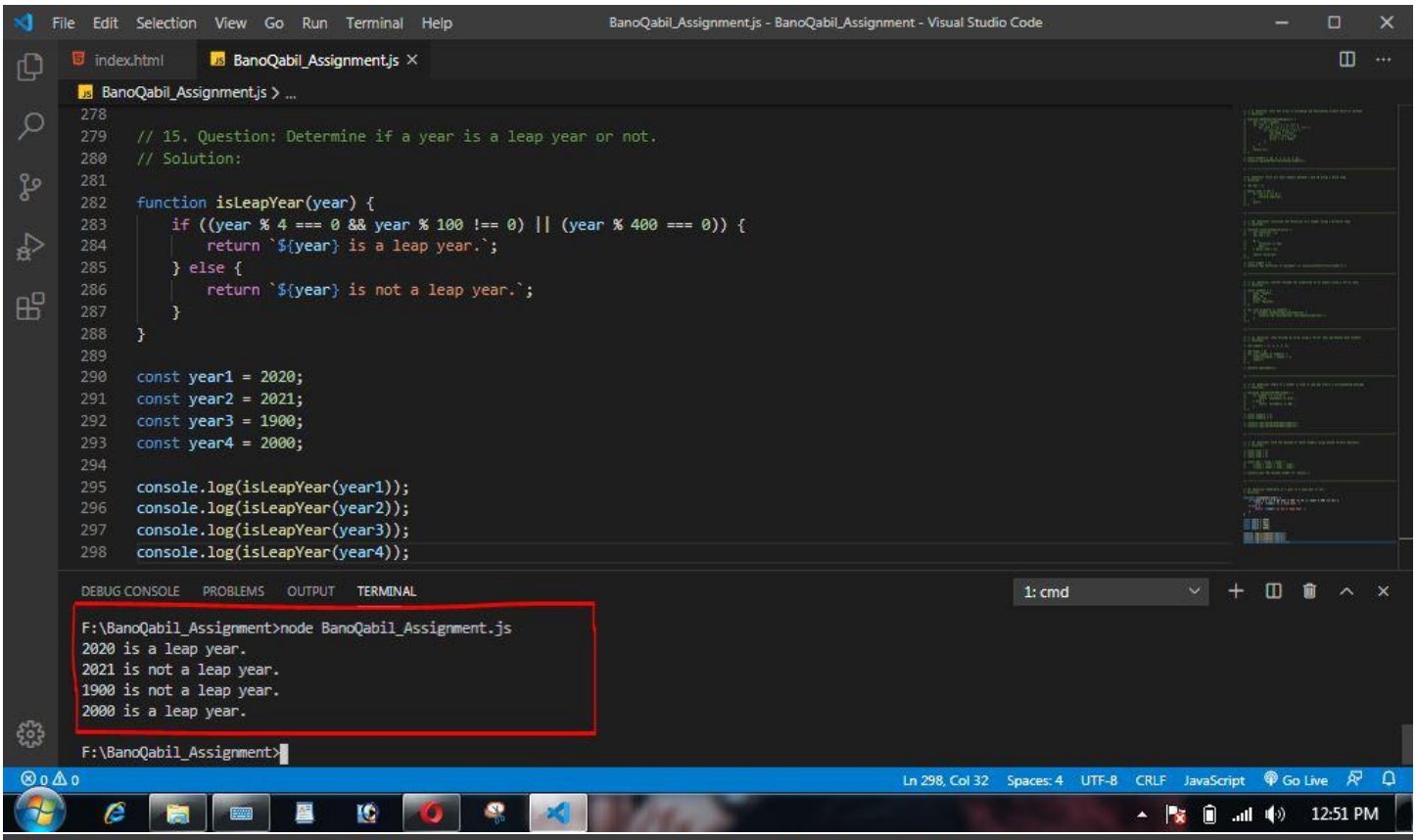

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > calculateFactorial
// 10. Question: Calculate the factorial of a number using a do-while loop.
// Solution:
function calculateFactorial(n) {
let factorial = 1;
let num = n;
do {
factorial *= num;
num--;
} while (num > 1);
return factorial;
}
const number = 5;
console.log(`Factorial of ${number} is: ${calculateFactorial(number)}`);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
Factorial of 5 is: 120
F:\BanoQabil_Assignment>
Ln 190, Col 18 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:35 AM

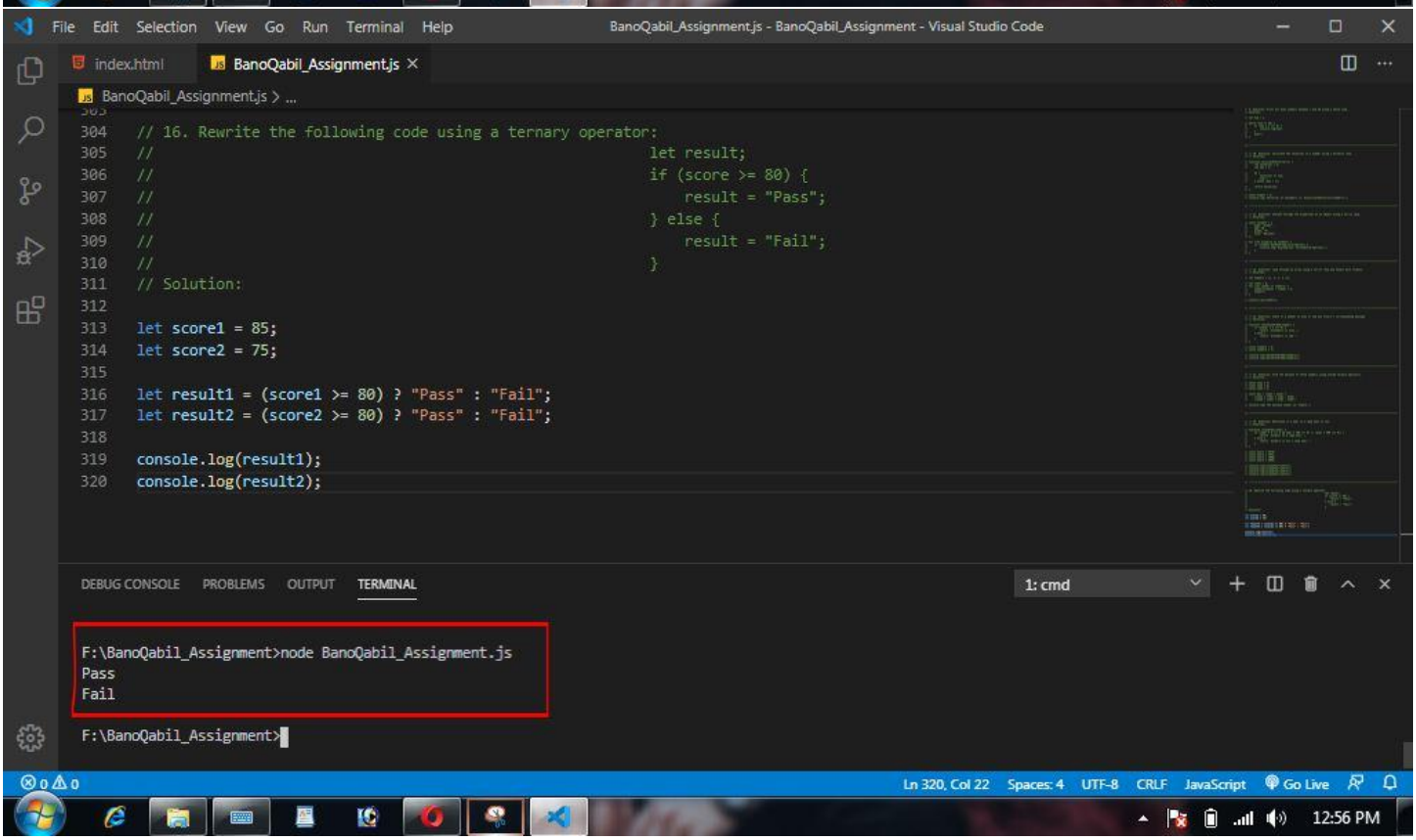

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
// 11. Question: Iterate through the properties of an object using a for-in loop.
// Solution:
const student = {
name: "Azeen",
age: 20,
grade: "A",
city: "Karachi"
};
for (let property in student) {
if (student.hasOwnProperty(property)) {
console.log(`${property}: ${student[property]}`);
}
}
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
name: Azeen
age: 20
grade: A
city: Karachi
F:\BanoQabil_Assignment>
Ln 218, Col 2 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:22 PM

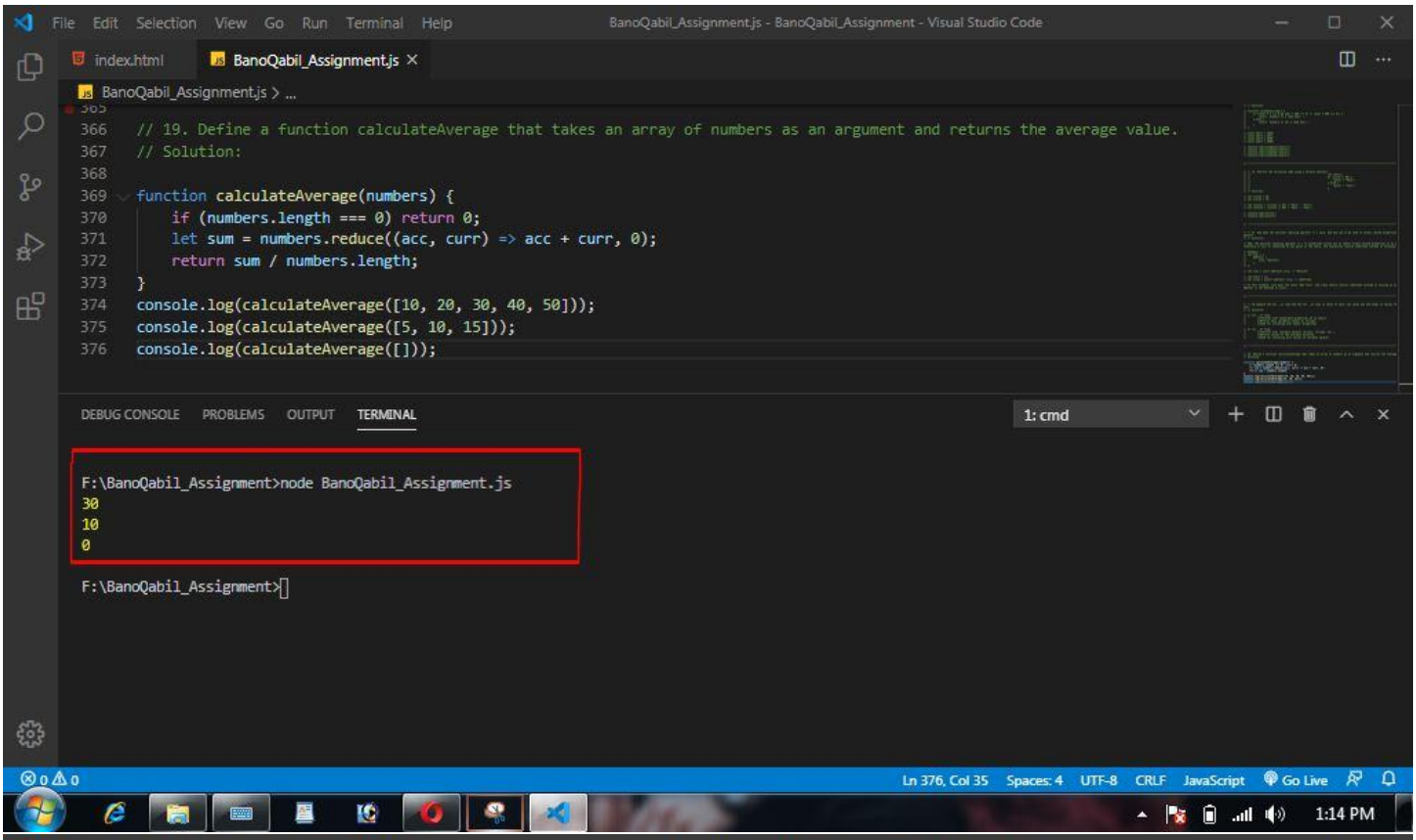

File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
// 12. Question: Loop through an array using a for-of loop and double each element.
// Solution:
let numbers = [1, 2, 3, 4, 5];
let index = 0;
for (let number of numbers) {
numbers[index] = number * 2;
index++;
}
console.log(numbers);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[2, 4, 6, 8, 10]
F:\BanoQabil_Assignment>
Ln 234, Col 1 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:29 PM

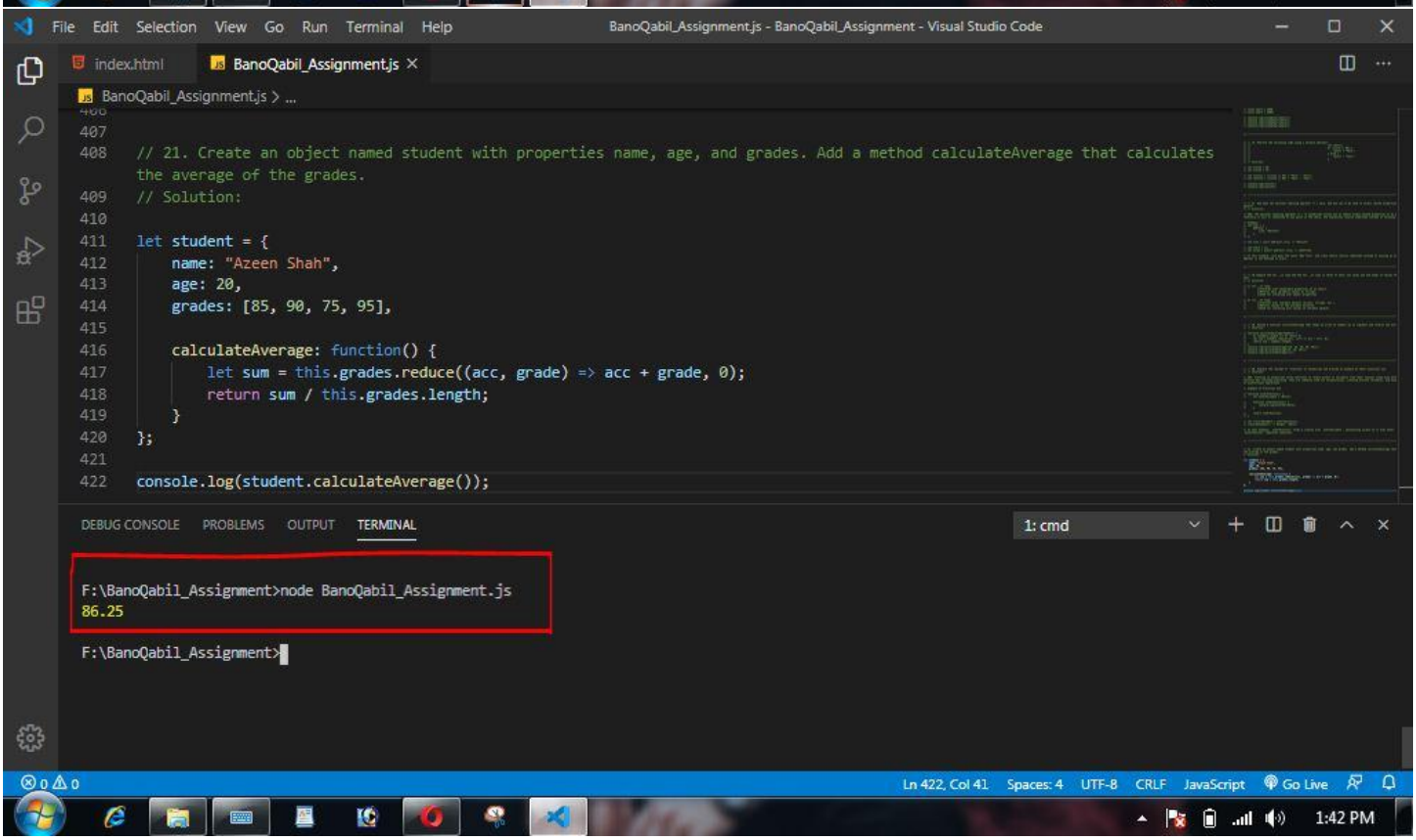

index.html
BanoQabil_Assignment.js
// 13. Question: Check if a number is even or odd and return a corresponding message.
// Solution:
function checkEvenOrOdd(number) {
if (number % 2 === 0) {
return `${number} is even.`;
} else {
return `${number} is odd.`;
}
}
const number1 = 4;
const number2 = 7;
console.log(checkEvenOrOdd(number1));
console.log(checkEvenOrOdd(number2));
DEBUG CONSOLE
PROBLEMS
OUTPUT
TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
4 is even.
7 is odd.
F:\BanoQabil_Assignment>
Ln 254, Col 1
Spaces: 4
UTF-8
CRLF
JavaScript
Go Live
12:33 PM

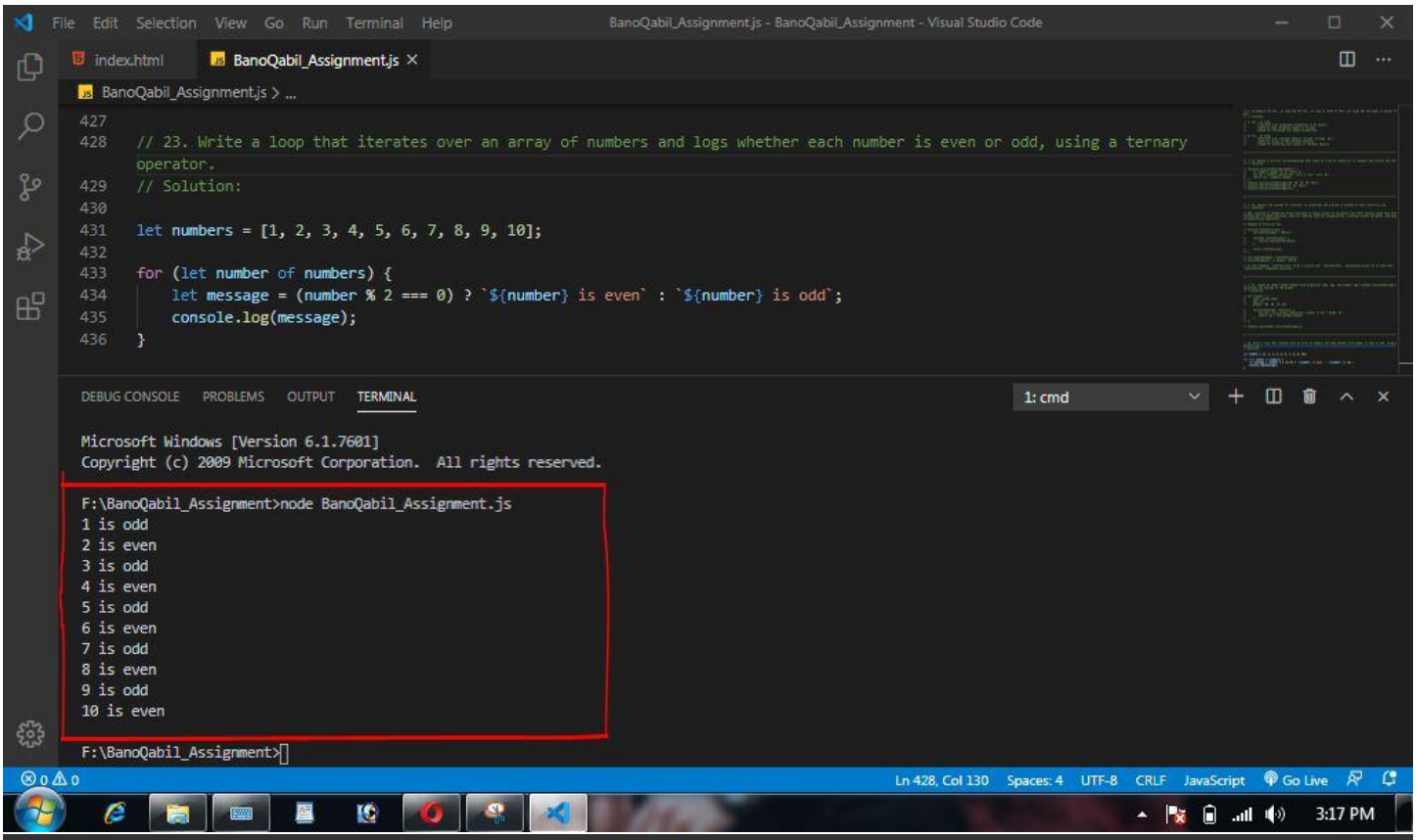

File Edit Selection View Go Run Terminal Help
• BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
// 14. Question: Find the maximum of three numbers using nested ternary operators.
// Solution:
const num1 = 5;
const num2 = 8;
const num3 = 3;
const max = (num1 > num2) ?
((num1 > num3) ? num1 : num3) :
((num2 > num3) ? num2 : num3);
console.log(`The maximum number is: ${max}`);
DEBUG CONSOLE
PROBLEMS
OUTPUT
TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
The maximum number is: 8
F:\BanoQabil_Assignment>
Ln 272, Col 1
Spaces: 4
UTF-8
CRLF
JavaScript
Go Live
12:46 PM


File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
278
279 // 15. Question: Determine if a year is a leap year or not.
280 // Solution:
281
282 function isLeapYear(year) {
283 if ((year % 4 === 0 && year % 100 !== 0) || (year % 400 === 0)) {
284 return `${year} is a leap year.`;
285 } else {
286 return `${year} is not a leap year.`;
287 }
288 }
289
290 const year1 = 2020;
291 const year2 = 2021;
292 const year3 = 1900;
293 const year4 = 2000;
294
295 console.log(isLeapYear(year1));
296 console.log(isLeapYear(year2));
297 console.log(isLeapYear(year3));
298 console.log(isLeapYear(year4));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
2020 is a leap year.
2021 is not a leap year.
1900 is not a leap year.
2000 is a leap year.
F:\BanoQabil_Assignment>
Ln 298, Col 32 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:51 PM


File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
304 // 16. Rewrite the following code using a ternary operator:
305 // let result;
306 // if (score >= 80) {
307 // result = "Pass";
308 // } else {
309 // result = "Fail";
310 // }
311 // Solution:
312
313 let score1 = 85;
314 let score2 = 75;
315
316 let result1 = (score1 >= 80) ? "Pass" : "Fail";
317 let result2 = (score2 >= 80) ? "Pass" : "Fail";
318
319 console.log(result1);
320 console.log(result2);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
Pass
Fail
F:\BanoQabil_Assignment>
Ln 320, Col 22 Spaces: 4 UTF-8 CRLF JavaScript Go Live
12:56 PM


File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
366 // 19. Define a function calculateAverage that takes an array of numbers as an argument and returns the average value.
367 // Solution:
368
369 function calculateAverage(numbers) {
370 if (numbers.length === 0) return 0;
371 let sum = numbers.reduce((acc, curr) => acc + curr, 0);
372 return sum / numbers.length;
373 }
374 console.log(calculateAverage([10, 20, 30, 40, 50]));
375 console.log(calculateAverage([5, 10, 15]));
376 console.log(calculateAverage([]));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
30
10
0
F:\BanoQabil_Assignment>
Ln 376, Col 35 Spaces: 4 UTF-8 CRLF JavaScript Go Live
1:14 PM


File Edit Selection View Go Run Terminal Help
BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
index.html
BanoQabil_Assignment.js
BanoQabil_Assignment.js > ...
407
408 // 21. Create an object named student with properties name, age, and grades. Add a method calculateAverage that calculates the average of the grades.
409 // Solution:
410
411 let student = {
412 name: "Azeen Shah",
413 age: 20,
414 grades: [85, 90, 75, 95],
415
416 calculateAverage: function() {
417 let sum = this.grades.reduce((acc, grade) => acc + grade, 0);
418 return sum / this.grades.length;
419 }
420 };
421
422 console.log(student.calculateAverage());
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
86.25
F:\BanoQabil_Assignment>
Ln 422, Col 41 Spaces: 4 UTF-8 CRLF JavaScript Go Live
1:42 PM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BanoQabil_Assignment.js - BanoQabil_Assignment - Visual Studio Code
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BanoQabil_Assignment.js > ...
427
428 // 23. Write a loop that iterates over an array of numbers and logs whether each number is even or odd, using a ternary operator.
429 // Solution:
430
431 let numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
432
433 for (let number of numbers) {
434 let message = (number % 2 === 0) ? `${number} is even` : `${number} is odd`;
435 console.log(message);
436 }
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
1 is odd
2 is even
3 is odd
4 is even
5 is odd
6 is even
7 is odd
8 is even
9 is odd
10 is even
F:\BanoQabil_Assignment>
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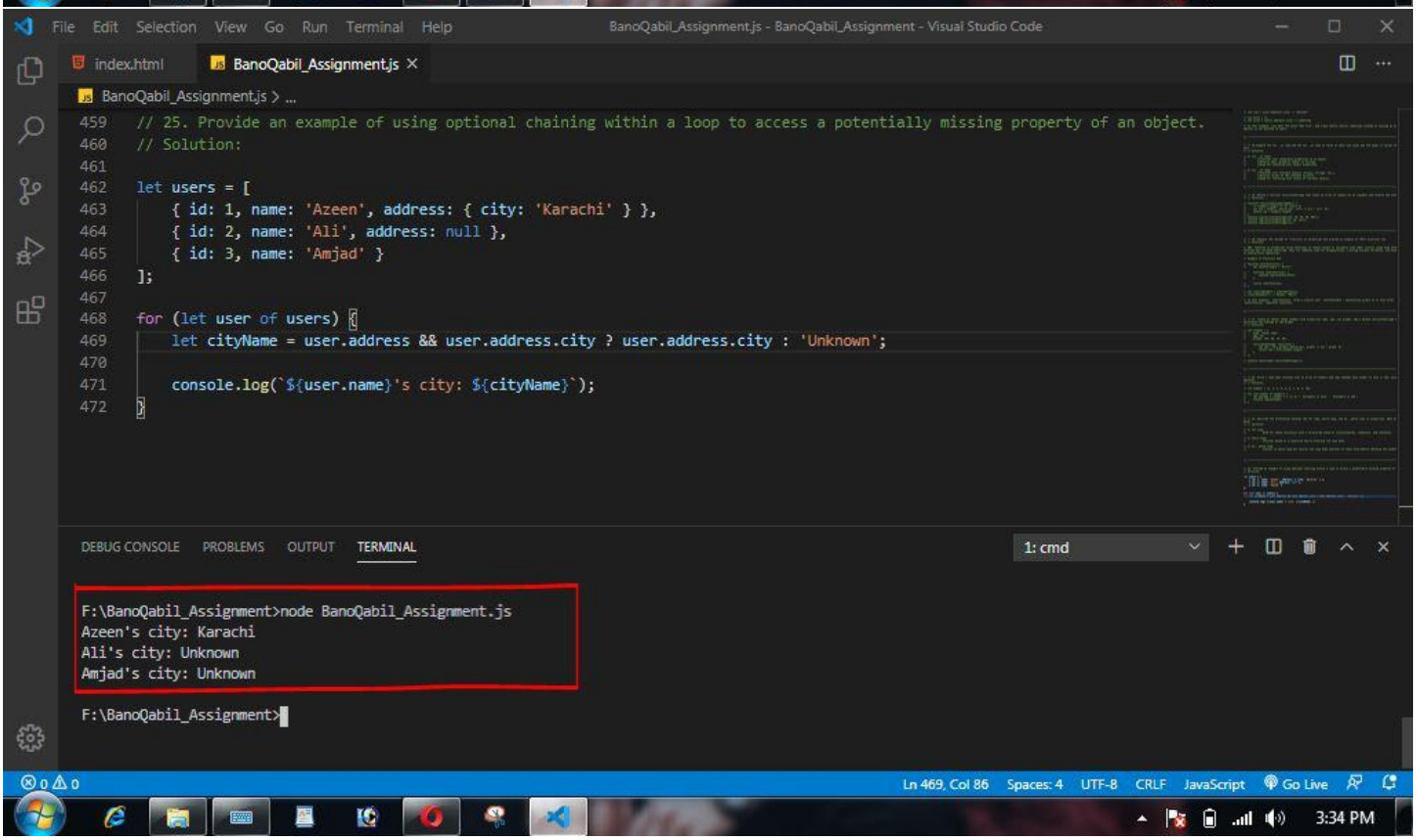
3:17 PM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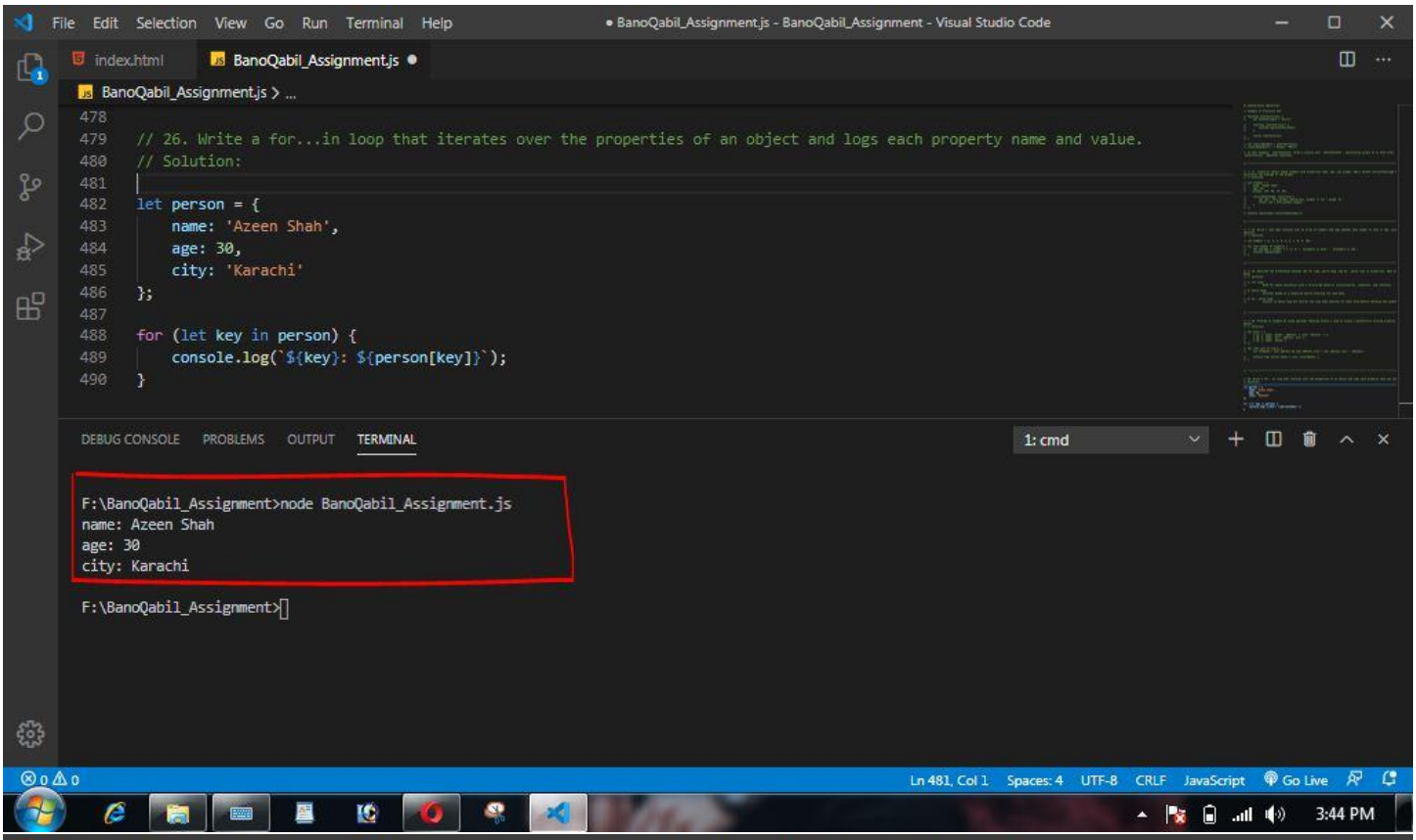
459 // 25. Provide an example of using optional chaining within a loop to access a potentially missing property of an object.
460 // Solution:
461
462 let users = [
463 { id: 1, name: 'Azeen', address: { city: 'Karachi' } },
464 { id: 2, name: 'Ali', address: null },
465 { id: 3, name: 'Amjad' }
466];
467
468 for (let user of users) {
469 let cityName = user.address && user.address.city ? user.address.city : 'Unknown';
470
471 console.log(`${user.name}'s city: ${cityName}`);
472 }
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
Azeen's city: Karachi
Ali's city: Unknown
Amjad's city: Unknown
F:\BanoQabil_Assignment>
Ln 469, Col 86 Spaces: 4 UTF-8 CRLF JavaScript Go Live
3:34 PM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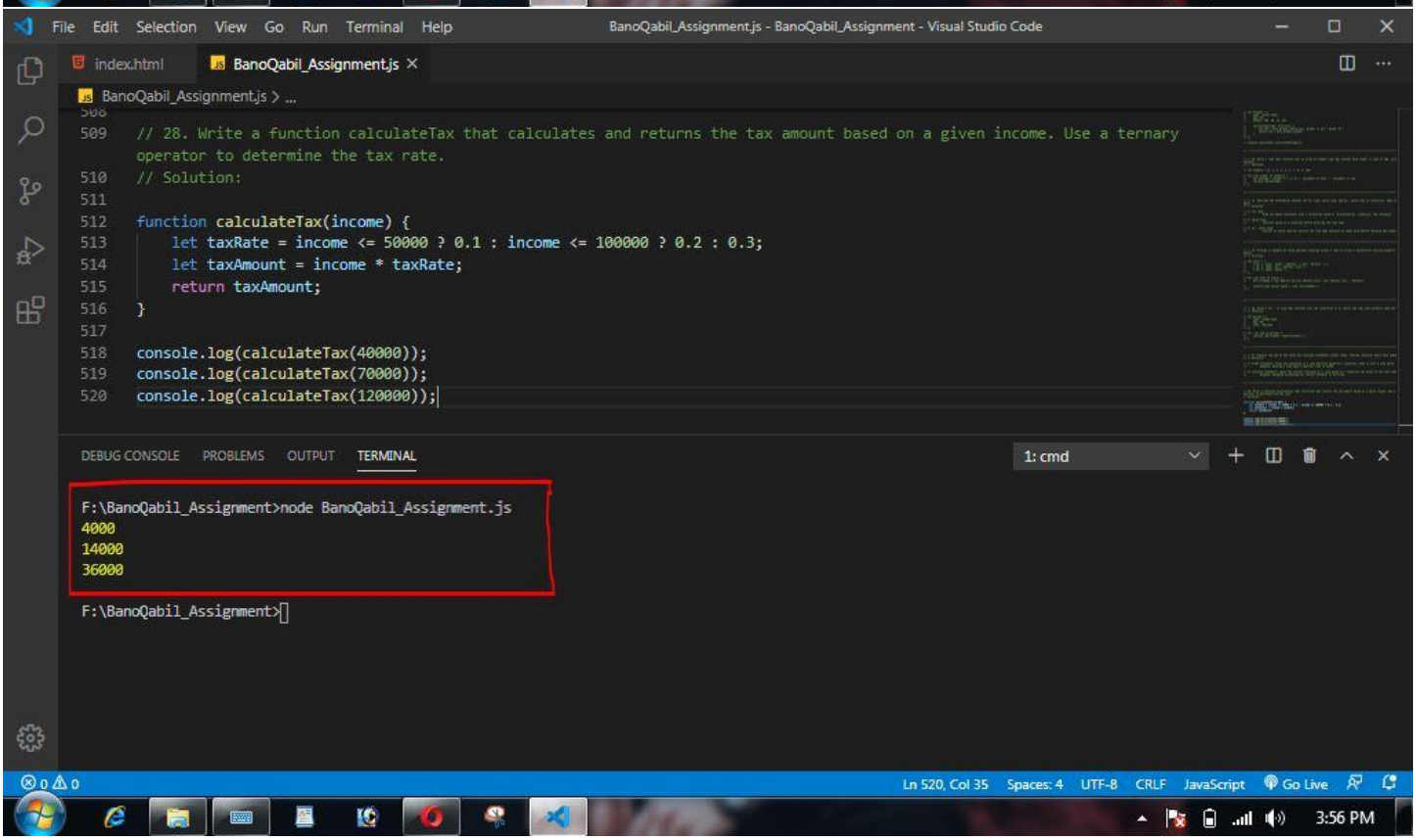
BanoQabil_Assignment.js > ...
478
479 // 26. Write a for...in loop that iterates over the properties of an object and logs each property name and value.
480 // Solution:
481
482 let person = {
483 name: 'Azeen Shah',
484 age: 30,
485 city: 'Karachi'
486 };
487
488 for (let key in person) {
489 console.log(`${key}: ${person[key]}`);
490 }
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
name: Azeen Shah
age: 30
city: Karachi
F:\BanoQabil_Assignment>
Ln 481, Col 1 Spaces: 4 UTF-8 CRLF JavaScript Go Live
3:44 PM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BanoQabil_Assignment.js > ...
509 // 28. Write a function calculateTax that calculates and returns the tax amount based on a given income. Use a ternary operator to determine the tax rate.
510 // Solution:
511
512 function calculateTax(income) {
513 let taxRate = income <= 50000 ? 0.1 : income <= 100000 ? 0.2 : 0.3;
514 let taxAmount = income * taxRate;
515 return taxAmount;
516 }
517
518 console.log(calculateTax(40000));
519 console.log(calculateTax(70000));
520 console.log(calculateTax(120000));
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
4000
14000
36000
F:\BanoQabil_Assignment>
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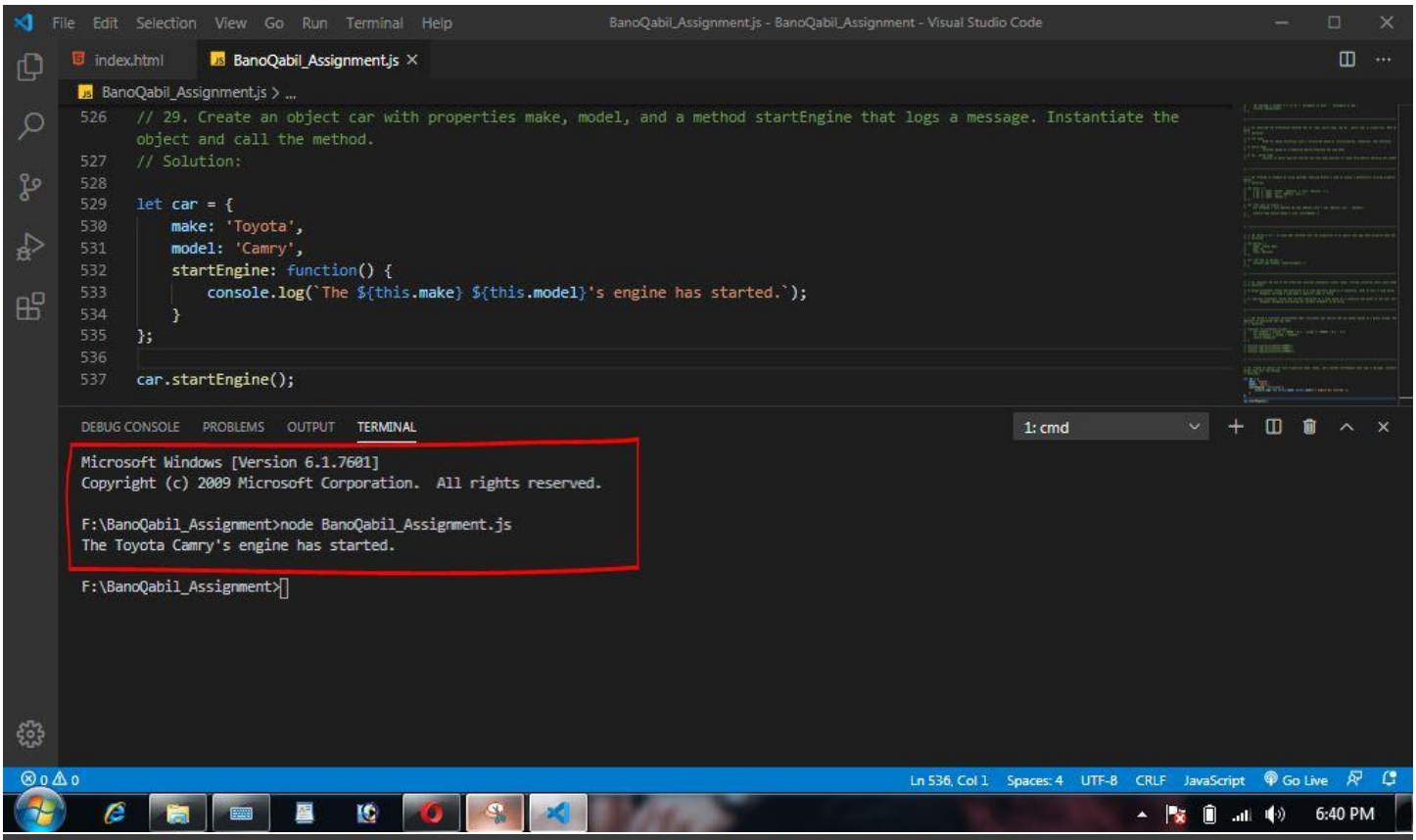
3:56 PM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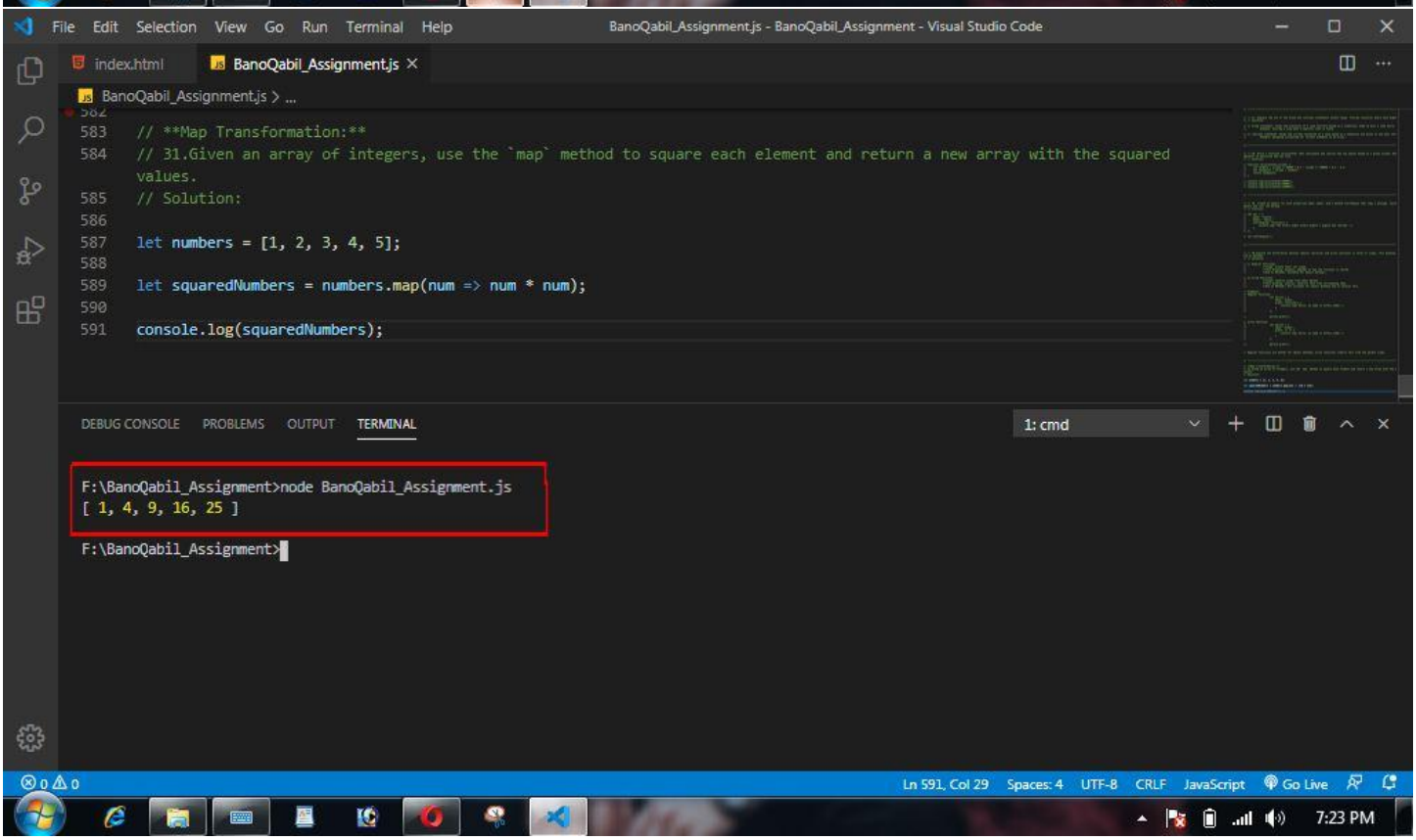
526 // 29. Create an object car with properties make, model, and a method startEngine that logs a message. Instantiate the object and call the method.
527 // Solution:
528
529 let car = {
530 make: 'Toyota',
531 model: 'Camry',
532 startEngine: function() {
533 console.log(`The ${this.make} ${this.model}'s engine has started.`);
534 }
535 };
536
537 car.startEngine();
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
The Toyota Camry's engine has started.
F:\BanoQabil_Assignment>
Ln 536, Col 1 Spaces: 4 UTF-8 CRLF JavaScript Go Live
6:40 PM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583 // **Map Transformation:**
584 // 31.Given an array of integers, use the `map` method to square each element and return a new array with the squared values.
585 // Solution:
586
587 let numbers = [1, 2, 3, 4, 5];
588
589 let squaredNumbers = numbers.map(num => num * num);
590
591 console.log(squaredNumbers);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[1, 4, 9, 16, 25]
F:\BanoQabil_Assignment>
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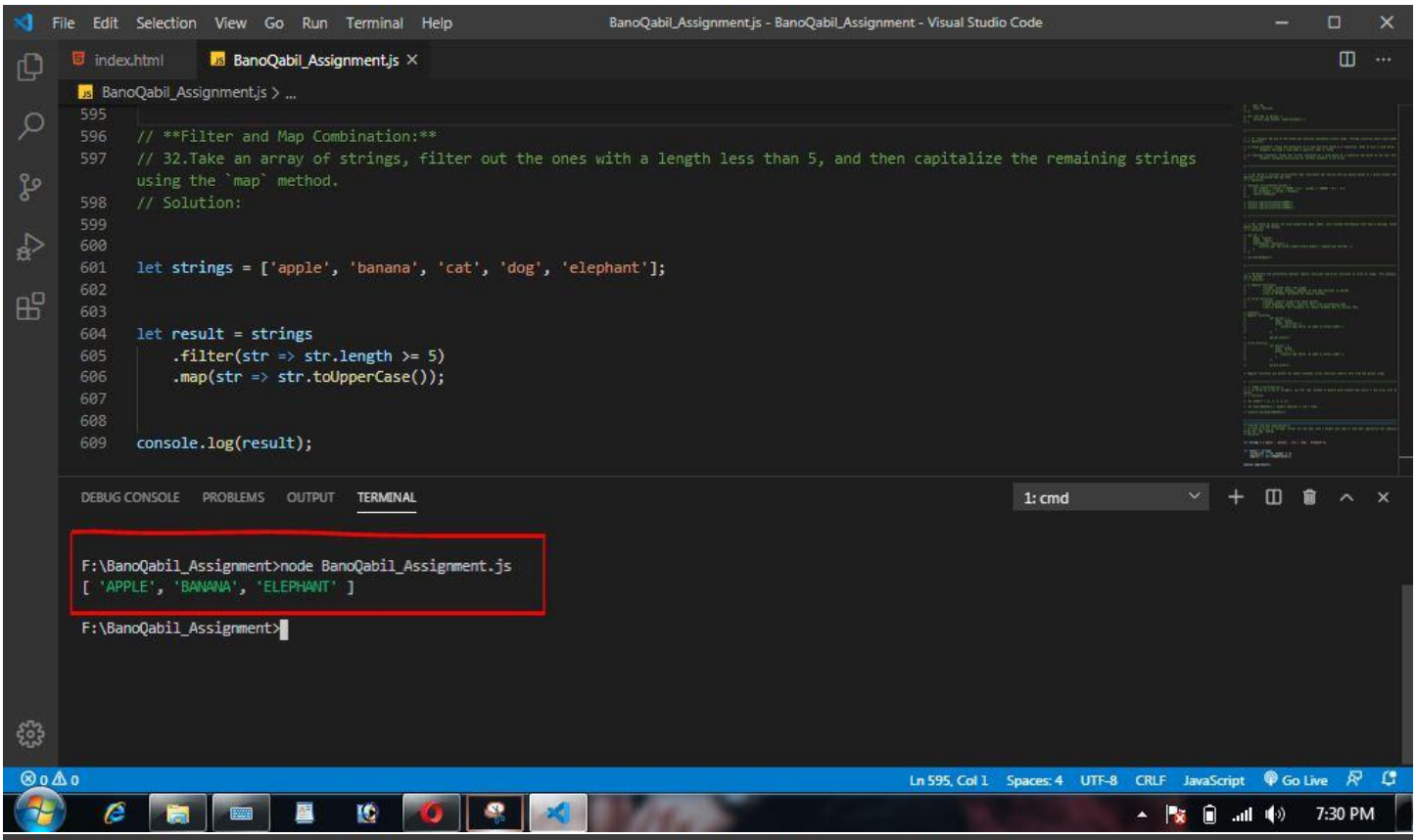
7:23 PM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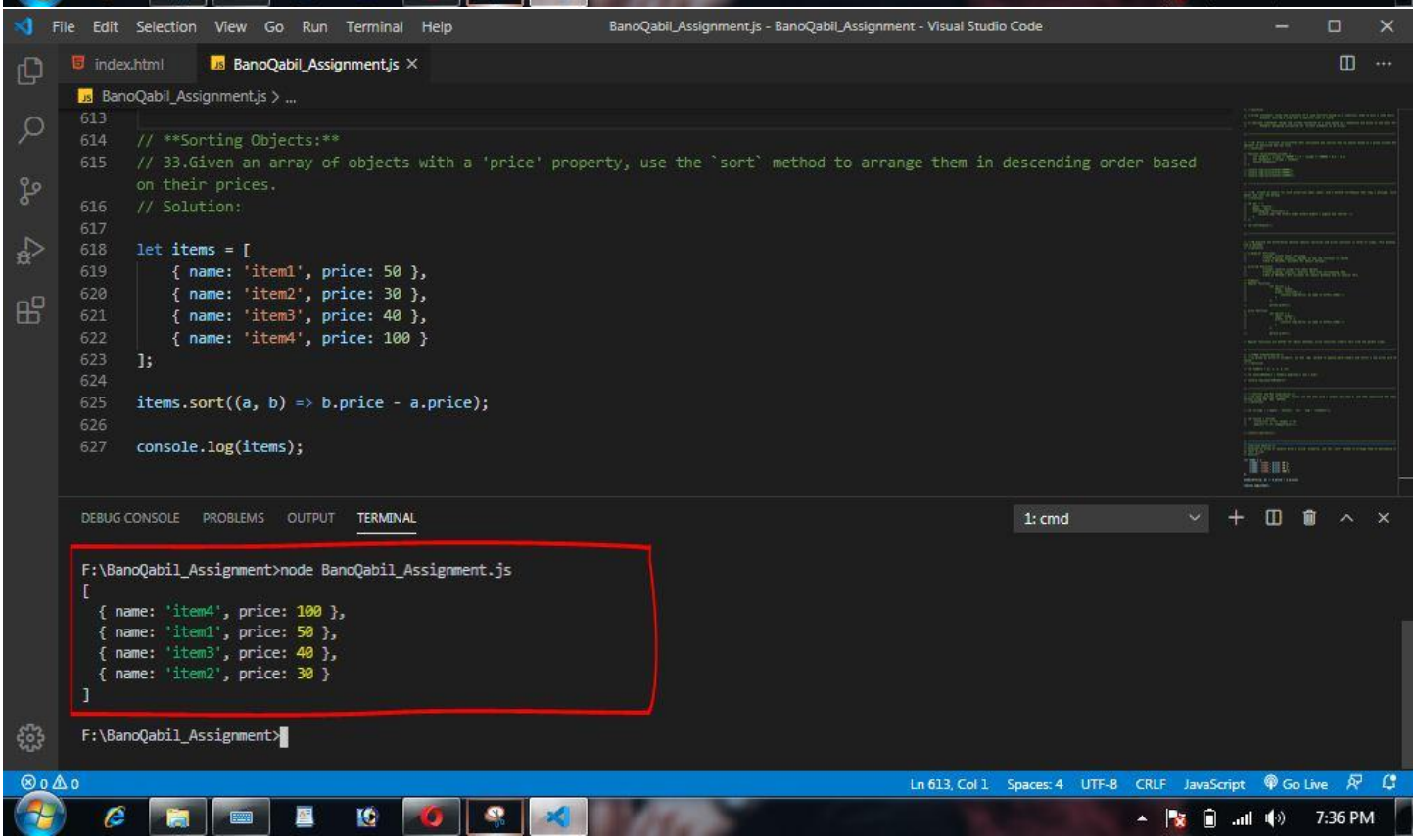
595
596 // **Filter and Map Combination:**
597 // 32.Take an array of strings, filter out the ones with a length less than 5, and then capitalize the remaining strings using the `map` method.
598 // Solution:
599
600
601 let strings = ['apple', 'banana', 'cat', 'dog', 'elephant'];
602
603
604 let result = strings
605 .filter(str => str.length >= 5)
606 .map(str => str.toUpperCase());
607
608
609 console.log(result);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
['APPLE', 'BANANA', 'ELEPHANT']
F:\BanoQabil_Assignment>
Ln 595, Col 1 Spaces: 4 UTF-8 CRLF JavaScript Go Live
7:30 PM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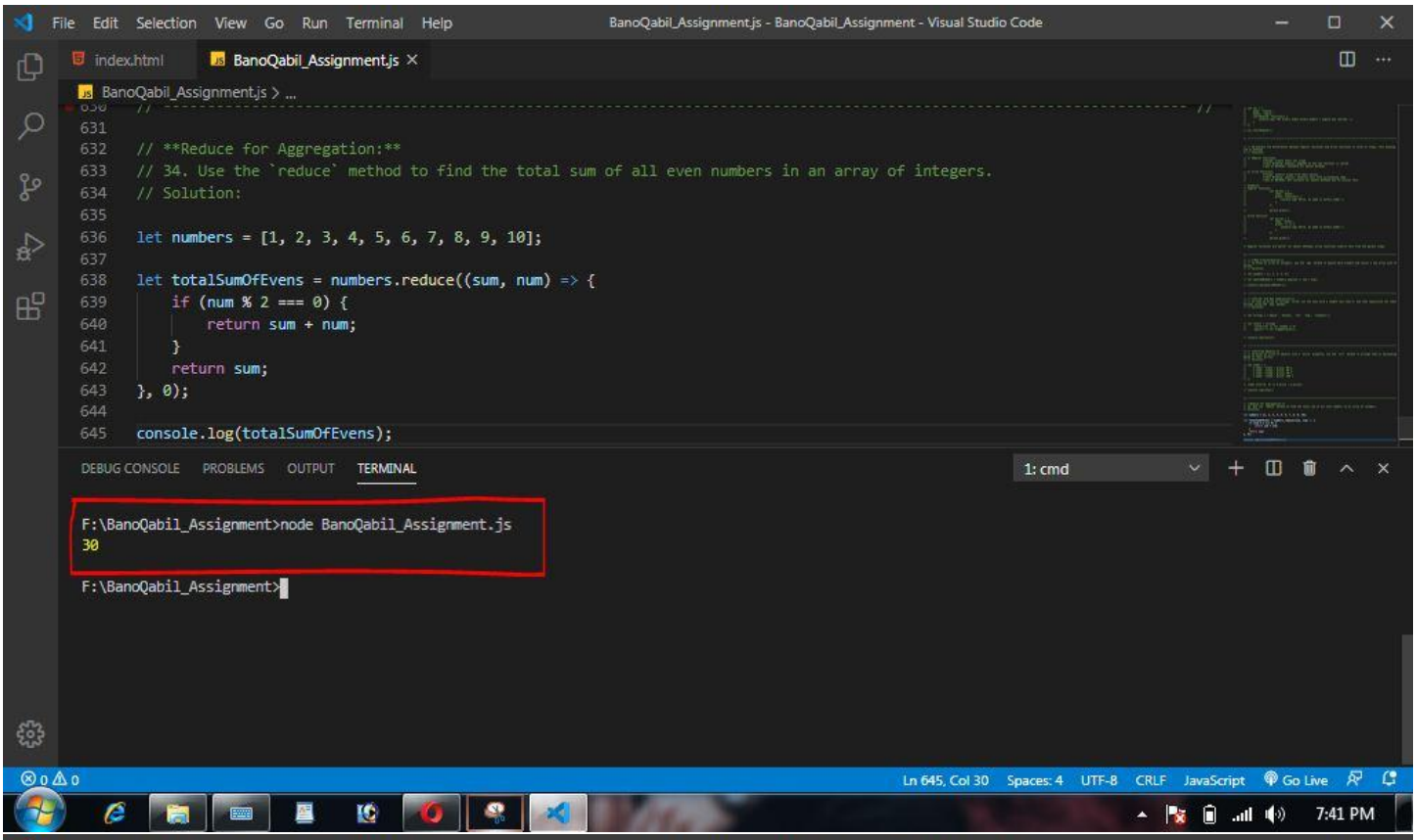
613
614 // **Sorting Objects:**
615 // 33.Given an array of objects with a 'price' property, use the `sort` method to arrange them in descending order based on their prices.
616 // Solution:
617
618 let items = [
619 { name: 'item1', price: 50 },
620 { name: 'item2', price: 30 },
621 { name: 'item3', price: 40 },
622 { name: 'item4', price: 100 }
623];
624
625 items.sort((a, b) => b.price - a.price);
626
627 console.log(items);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[
{ name: 'item4', price: 100 },
{ name: 'item1', price: 50 },
{ name: 'item3', price: 40 },
{ name: 'item2', price: 30 }
]
F:\BanoQabil_Assignment>
Ln 613, Col 1 Spaces: 4 UTF-8 CRLF JavaScript Go Live
7:36 PM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// **Reduce for Aggregation:**
// 34. Use the `reduce` method to find the total sum of all even numbers in an array of integers.
// Solution:
let numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
let totalSumOfEvens = numbers.reduce((sum, num) => {
if (num % 2 === 0) {
return sum + num;
}
return sum;
}, 0);
console.log(totalSumOfEvens);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
30
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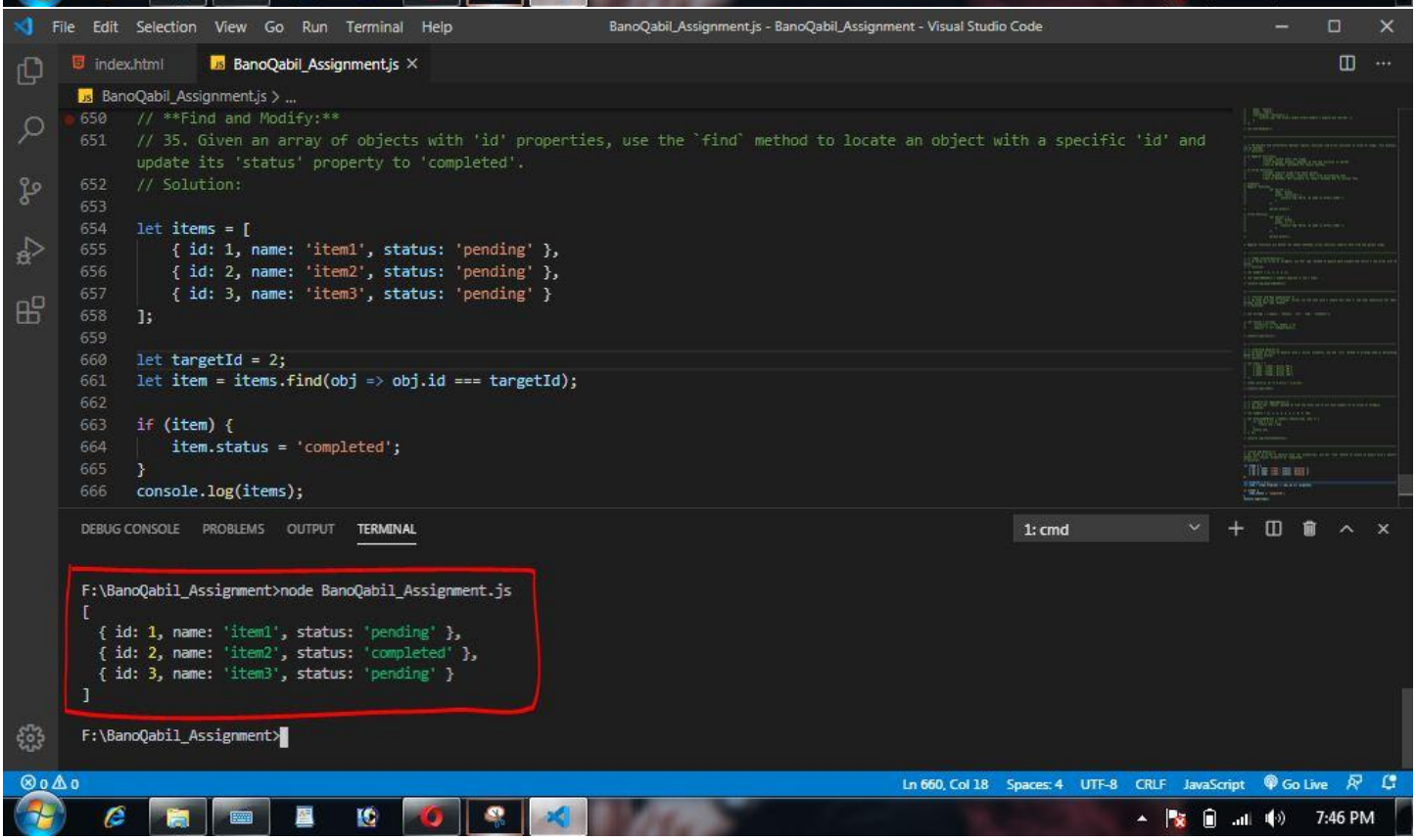
7:41 PM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// **Find and Modify:**
// 35. Given an array of objects with 'id' properties, use the `find` method to locate an object with a specific 'id' and update its 'status' property to 'completed'.
// Solution:
let items = [
{ id: 1, name: 'item1', status: 'pending' },
{ id: 2, name: 'item2', status: 'pending' },
{ id: 3, name: 'item3', status: 'pending' }
];
let targetId = 2;
let item = items.find(obj => obj.id === targetId);
if (item) {
item.status = 'completed';
}
console.log(items);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[
{ id: 1, name: 'item1', status: 'pending' },
{ id: 2, name: 'item2', status: 'completed' },
{ id: 3, name: 'item3', status: 'pending' }
]
F:\BanoQabil_Assignment>
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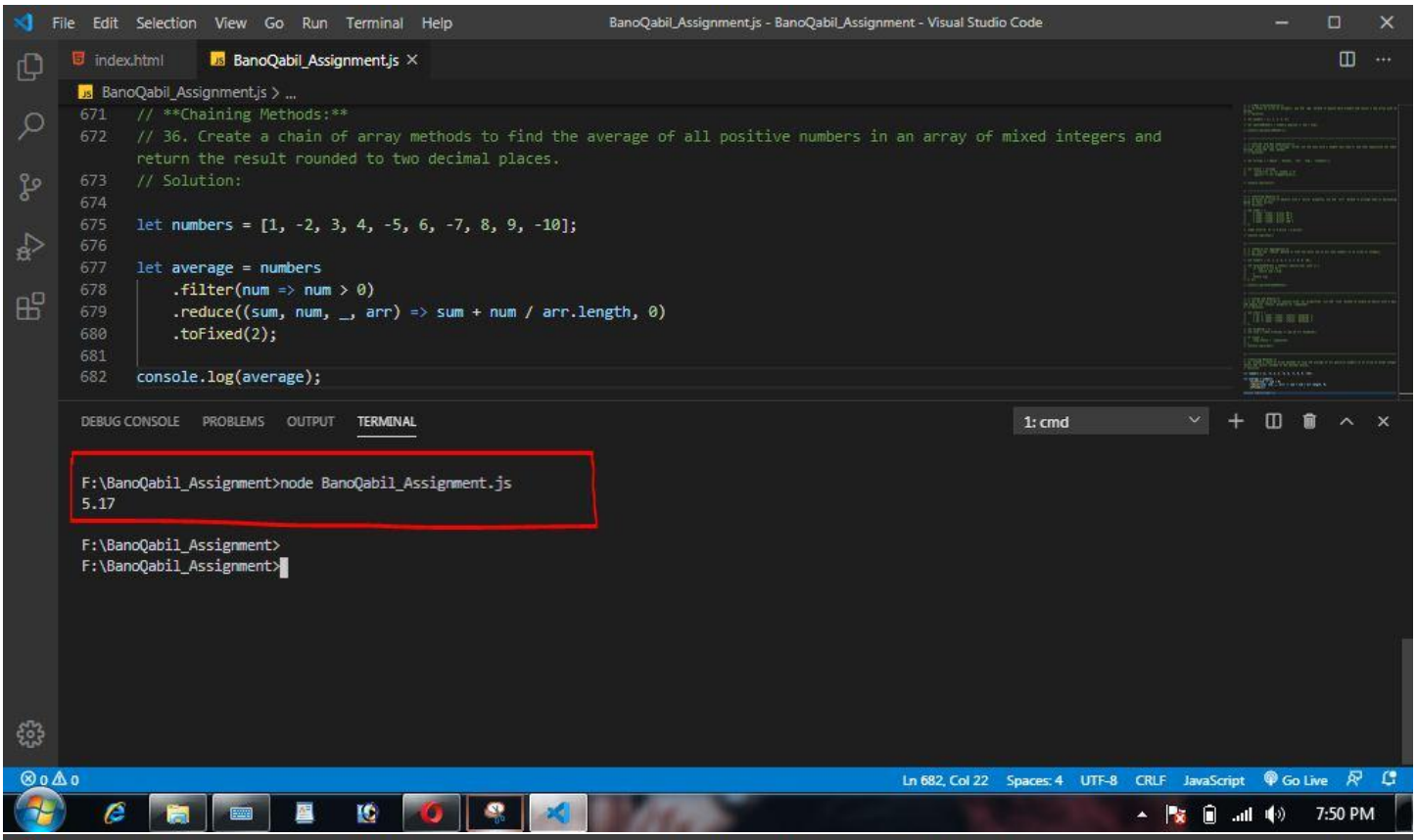
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671 // **Chaining Methods:**
672 // 36. Create a chain of array methods to find the average of all positive numbers in an array of mixed integers and return the result rounded to two decimal places.
673 // Solution:
674
675 let numbers = [1, -2, 3, 4, -5, 6, -7, 8, 9, -10];
676
677 let average = numbers
678 .filter(num => num > 0)
679 .reduce((sum, num, _, arr) => sum + num / arr.length, 0)
680 .toFixed(2);
681
682 console.log(average);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
5.17
F:\BanoQabil_Assignment>
F:\BanoQabil_Assignment>
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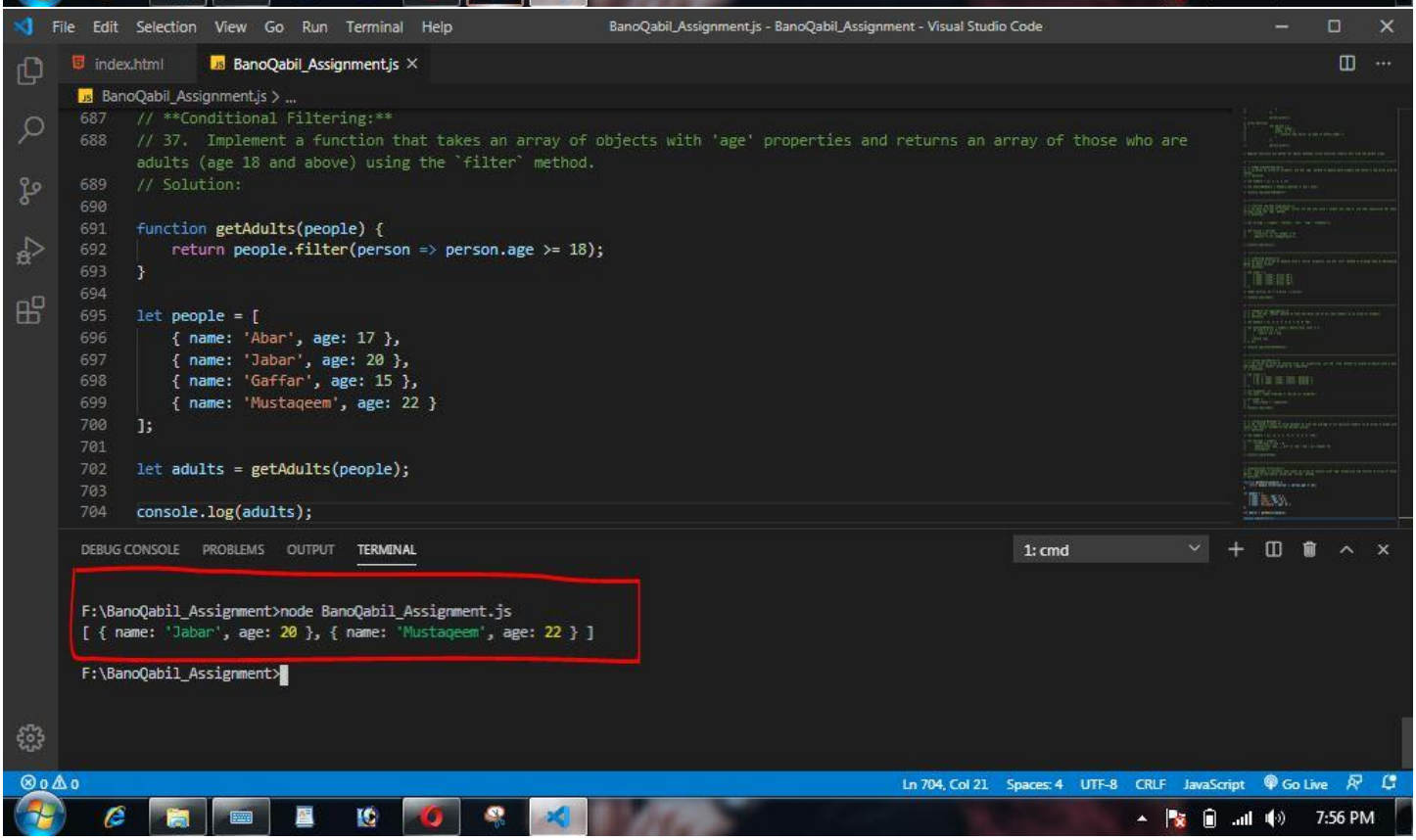
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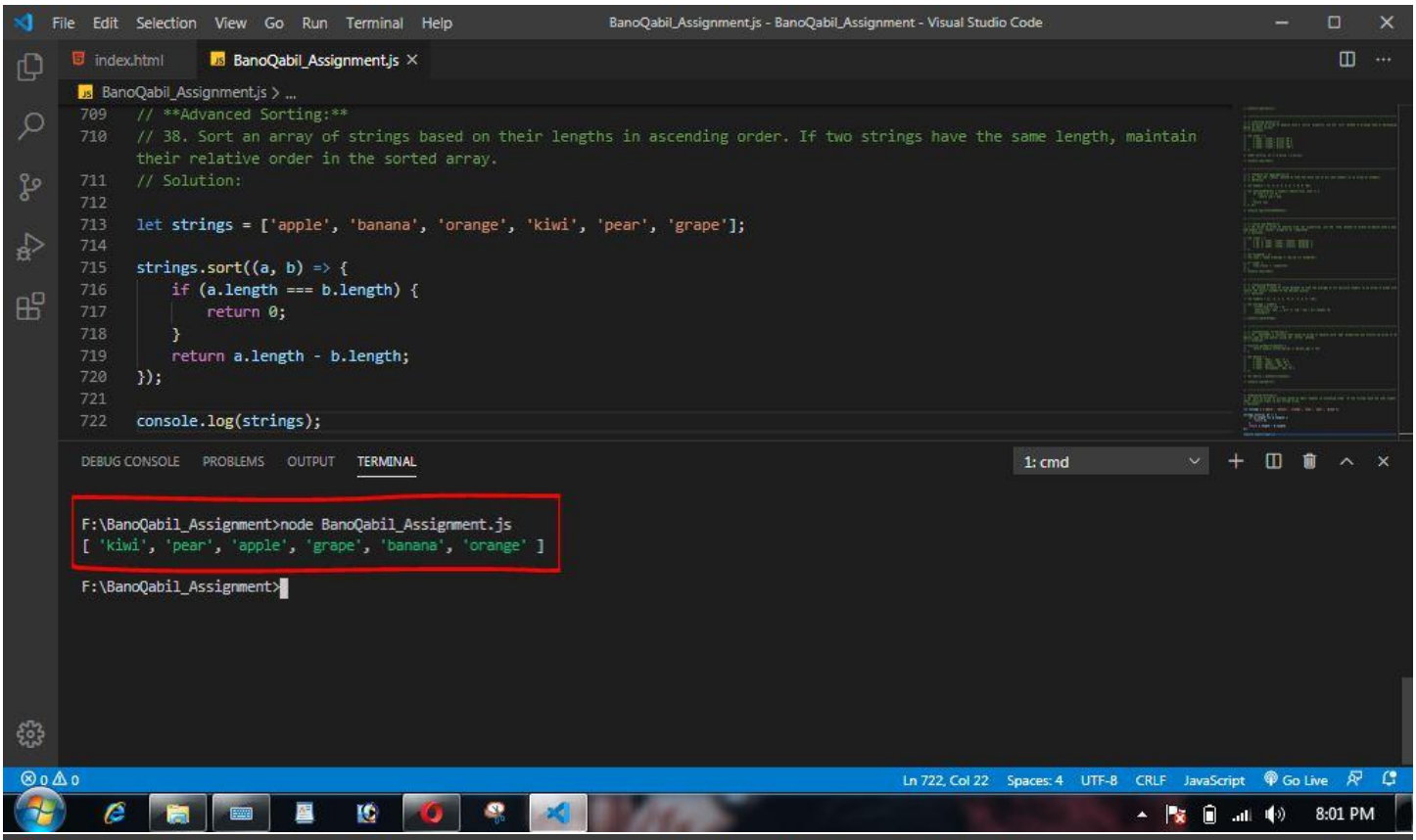
687 // **Conditional Filtering:**
688 // 37. Implement a function that takes an array of objects with 'age' properties and returns an array of those who are adults (age 18 and above) using the `filter` method.
689 // Solution:
690
691 function getAdults(people) {
692 return people.filter(person => person.age >= 18);
693 }
694
695 let people = [
696 { name: 'Abar', age: 17 },
697 { name: 'Jabar', age: 20 },
698 { name: 'Gaffar', age: 15 },
699 { name: 'Mustaqeem', age: 22 }
700];
701
702 let adults = getAdults(people);
703
704 console.log(adults);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
[{ name: 'Jabar', age: 20 }, { name: 'Mustaqeem', age: 22 }]
F:\BanoQabil_Assignment>
Ln 704, Col 21 Spaces: 4 UTF-8 CRLF JavaScript Go Live
7:56 PM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709 // **Advanced Sorting:**
710 // 38. Sort an array of strings based on their lengths in ascending order. If two strings have the same length, maintain their relative order in the sorted array.
711 // Solution:
712
713 let strings = ['apple', 'banana', 'orange', 'kiwi', 'pear', 'grape'];
714
715 strings.sort((a, b) => {
716 if (a.length === b.length) {
717 return 0;
718 }
719 return a.length - b.length;
720 });
721
722 console.log(strings);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
['kiwi', 'pear', 'apple', 'grape', 'banana', 'orange']
F:\BanoQabil_Assignment>
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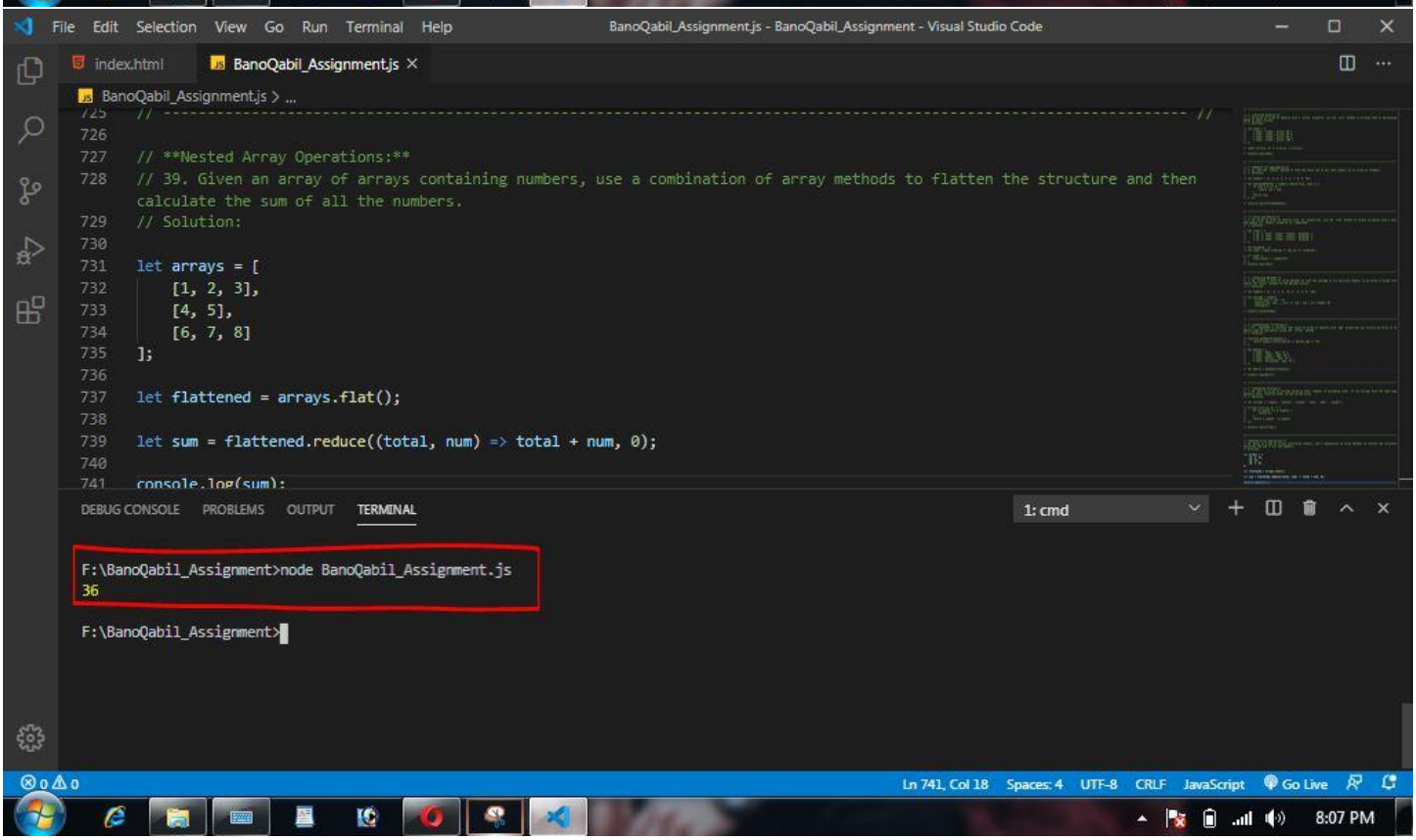
8:01 PM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726
727 // **Nested Array Operations:**
728 // 39. Given an array of arrays containing numbers, use a combination of array methods to flatten the structure and then calculate the sum of all the numbers.
729 // Solution:
730
731 let arrays = [
732 [1, 2, 3],
733 [4, 5],
734 [6, 7, 8]
735];
736
737 let flattened = arrays.flat();
738
739 let sum = flattened.reduce((total, num) => total + num, 0);
740
741 console.log(sum);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
36
F:\BanoQabil_Assignment>
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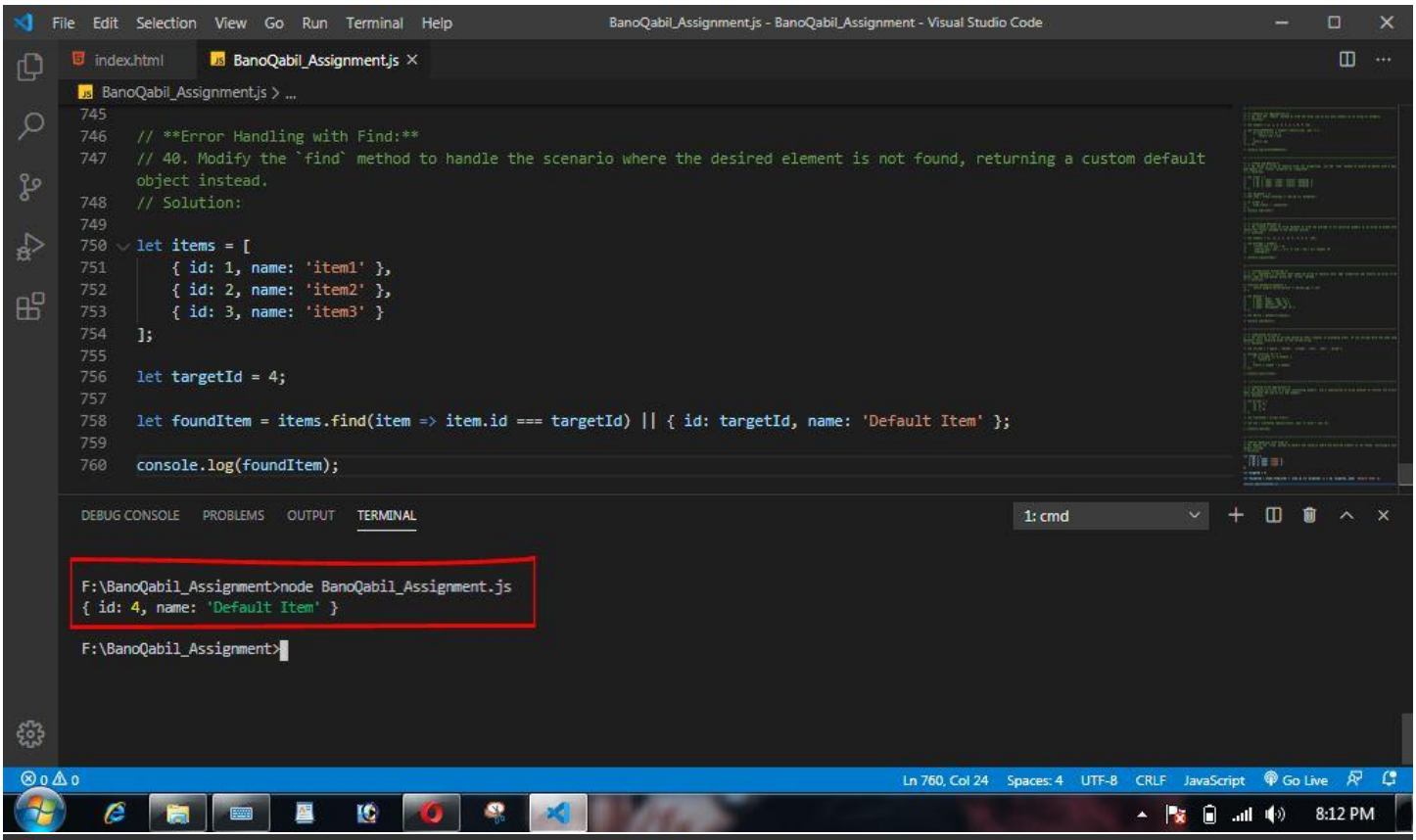
8:07 PM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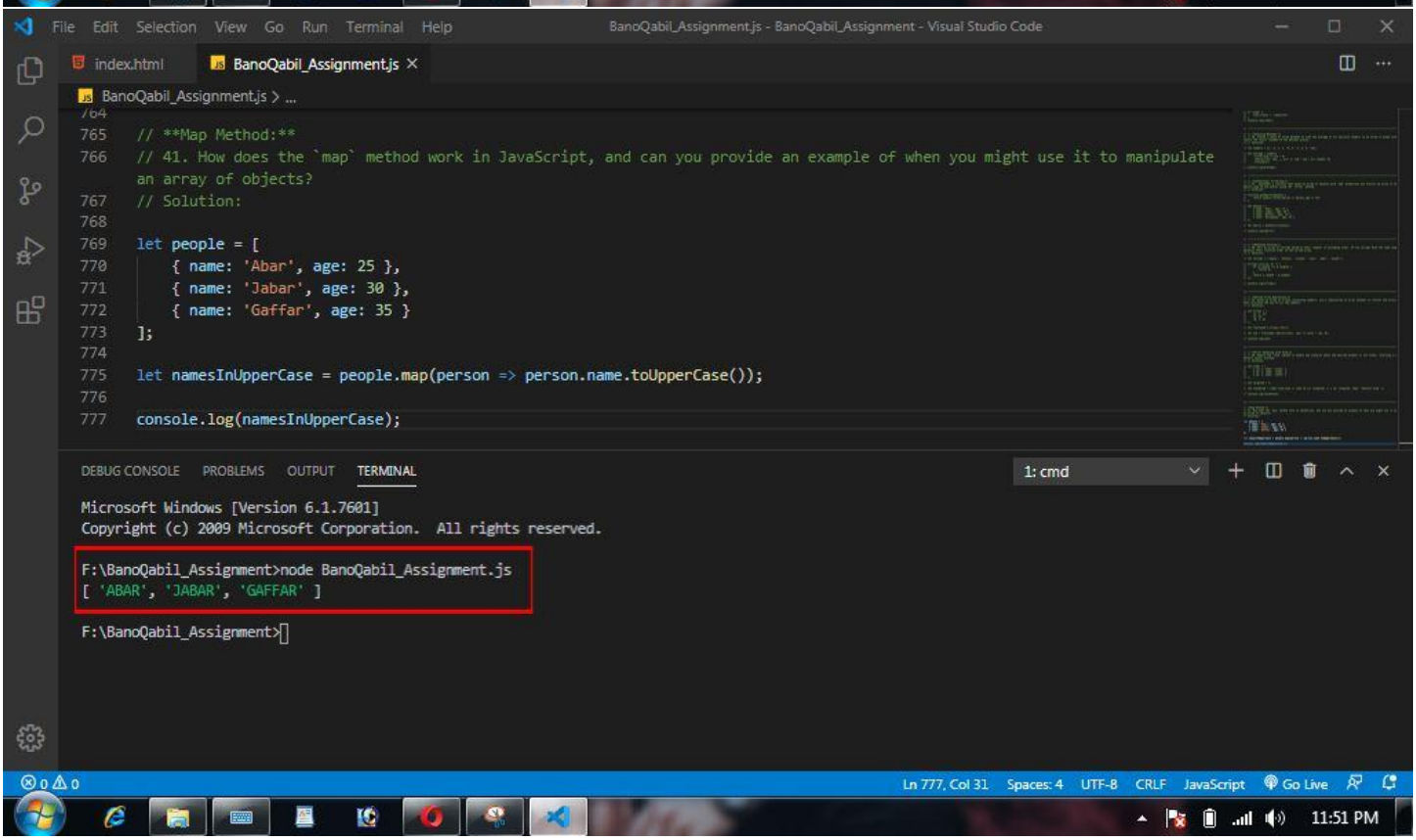
745
746 // **Error Handling with Find:**
747 // 40. Modify the `find` method to handle the scenario where the desired element is not found, returning a custom default object instead.
748 // Solution:
749
750 let items = [
751 { id: 1, name: 'item1' },
752 { id: 2, name: 'item2' },
753 { id: 3, name: 'item3' }
754];
755
756 let targetId = 4;
757
758 let foundItem = items.find(item => item.id === targetId) || { id: targetId, name: 'Default Item' };
759
760 console.log(foundItem);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
{ id: 4, name: 'Default Item' }
F:\BanoQabil_Assignment>
Ln 760, Col 24 Spaces: 4 UTF-8 CRLF JavaScript Go Live
8:12 PM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765 // **Map Method:**
766 // 41. How does the `map` method work in JavaScript, and can you provide an example of when you might use it to manipulate an array of objects?
767 // Solution:
768
769 let people = [
770 { name: 'Abar', age: 25 },
771 { name: 'Jabar', age: 30 },
772 { name: 'Gaffar', age: 35 }
773];
774
775 let namesInUpperCase = people.map(person => person.name.toUpperCase());
776
777 console.log(namesInUpperCase);
DEBUG CONSOLE PROBLEMS OUTPUT TERMINAL
1: cmd
Microsoft Windows [Version 6.1.7601]
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F:\BanoQabil_Assignment>node BanoQabil_Assignment.js
['ABAR', 'JABAR', 'GAFFAR']
F:\BanoQabil_Assignment>
Ln 777, Col 31 Spaces: 4 UTF-8 CRLF JavaScript Go Live
11:51 PM