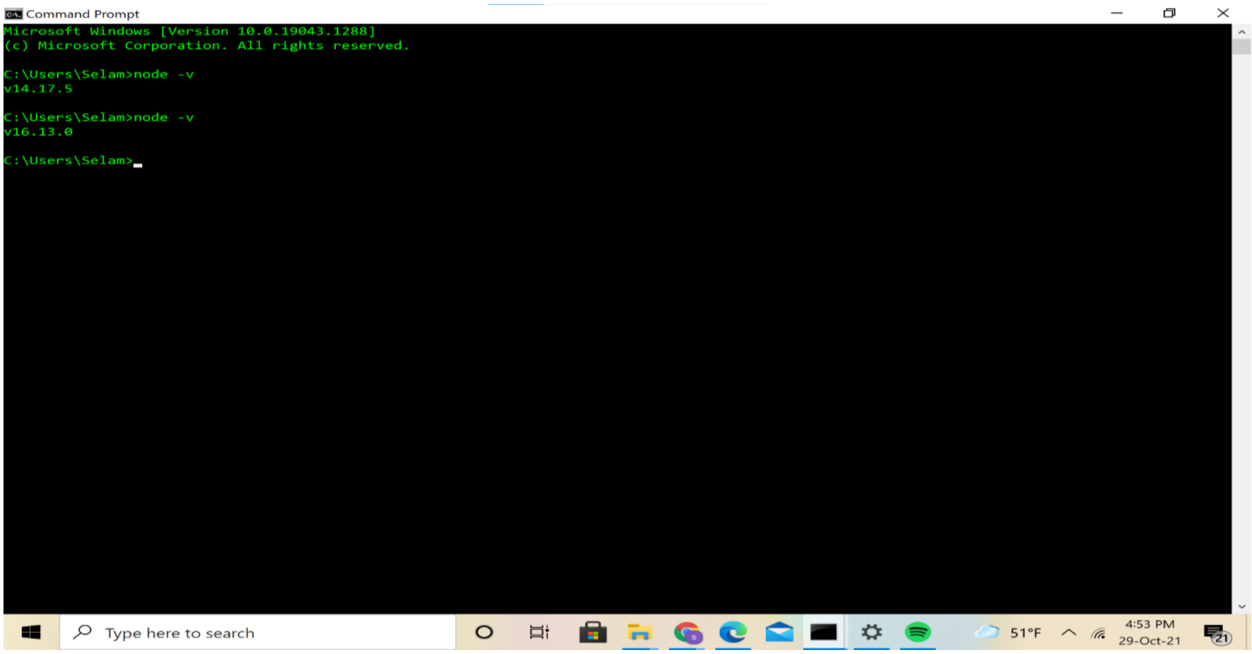
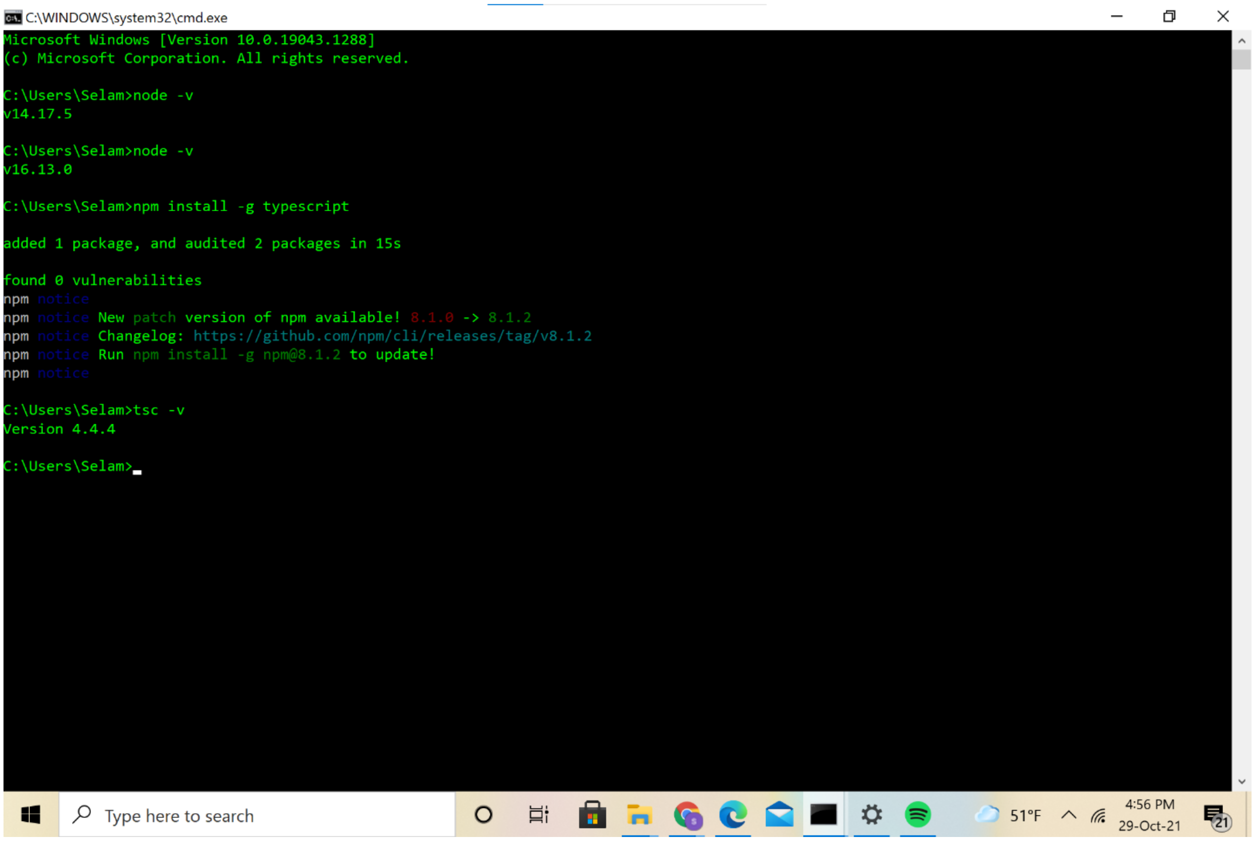
1.



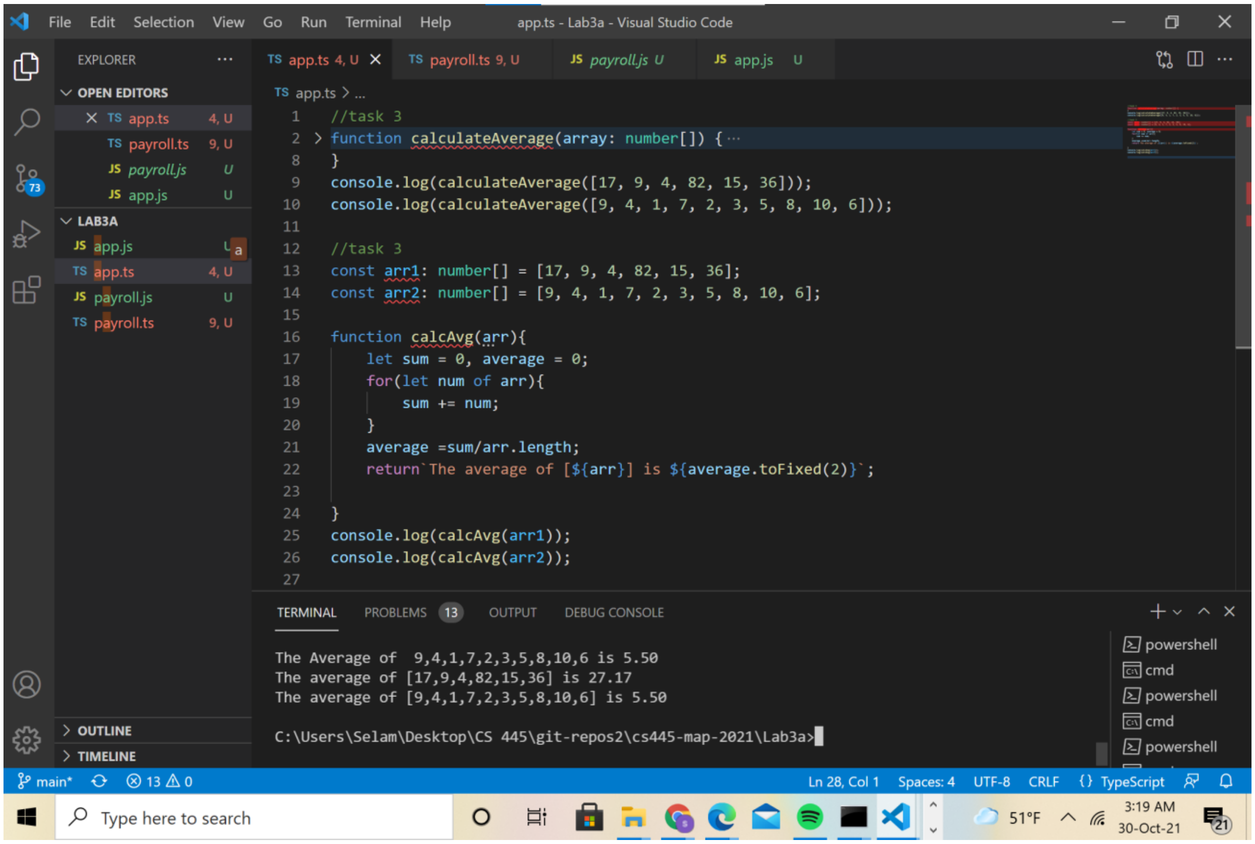
```
Microsoft Windows [Version 10.0.19043.1288]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Selam>node -v
v14.17.5

C:\Users\Selam>node -v
v16.13.0

C:\Users\Selam>_
```

2.



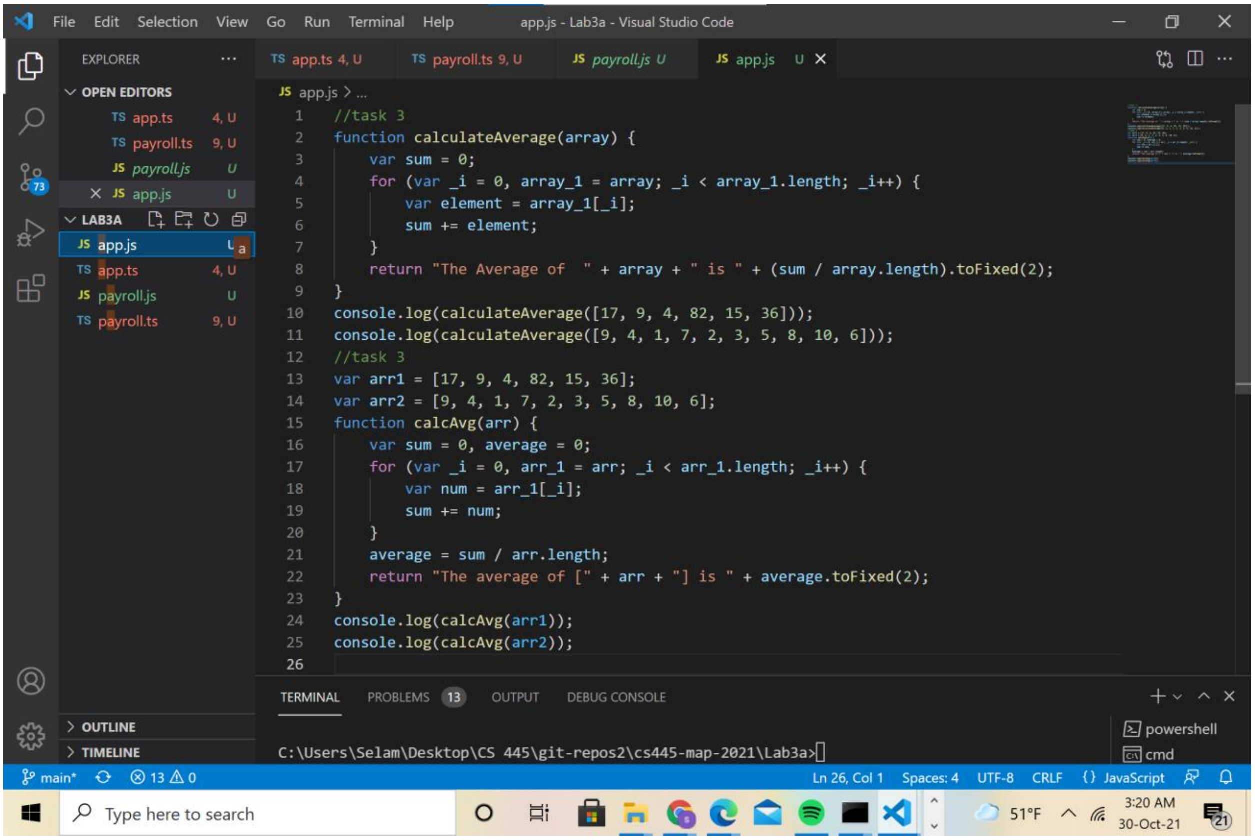
```
Microsoft Windows [Version 10.0.19043.1288]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Selam>node -v
v14.17.5

C:\Users\Selam>node -v
v16.13.0

C:\Users\Selam>npm install -g typescript

added 1 package, and audited 2 packages in 15s

found 0 vulnerabilities
npm notice
npm notice New patch version of npm available! 8.1.0 -> 8.1.2
npm notice Changelog: https://github.com/npm/cli/releases/tag/v8.1.2
npm notice Run npm install -g npm@8.1.2 to update!
npm notice

C:\Users\Selam>tsc -v
Version 4.4.4

C:\Users\Selam>_
```

3



```
//task 3
function calculateAverage(array: number[]) {⋯
}
console.log(calculateAverage([17, 9, 4, 82, 15, 36]));
console.log(calculateAverage([9, 4, 1, 7, 2, 3, 5, 8, 10, 6]));

//task 3
const arr1: number[] = [17, 9, 4, 82, 15, 36];
const arr2: number[] = [9, 4, 1, 7, 2, 3, 5, 8, 10, 6];

function calcAvg(arr){
    let sum = 0, average = 0;
    for(let num of arr){
        sum += num;
    }
    average =sum/arr.length;
    return`The average of [${arr}] is ${average.toFixed(2)}`;

}
console.log(calcAvg(arr1));
console.log(calcAvg(arr2));

```

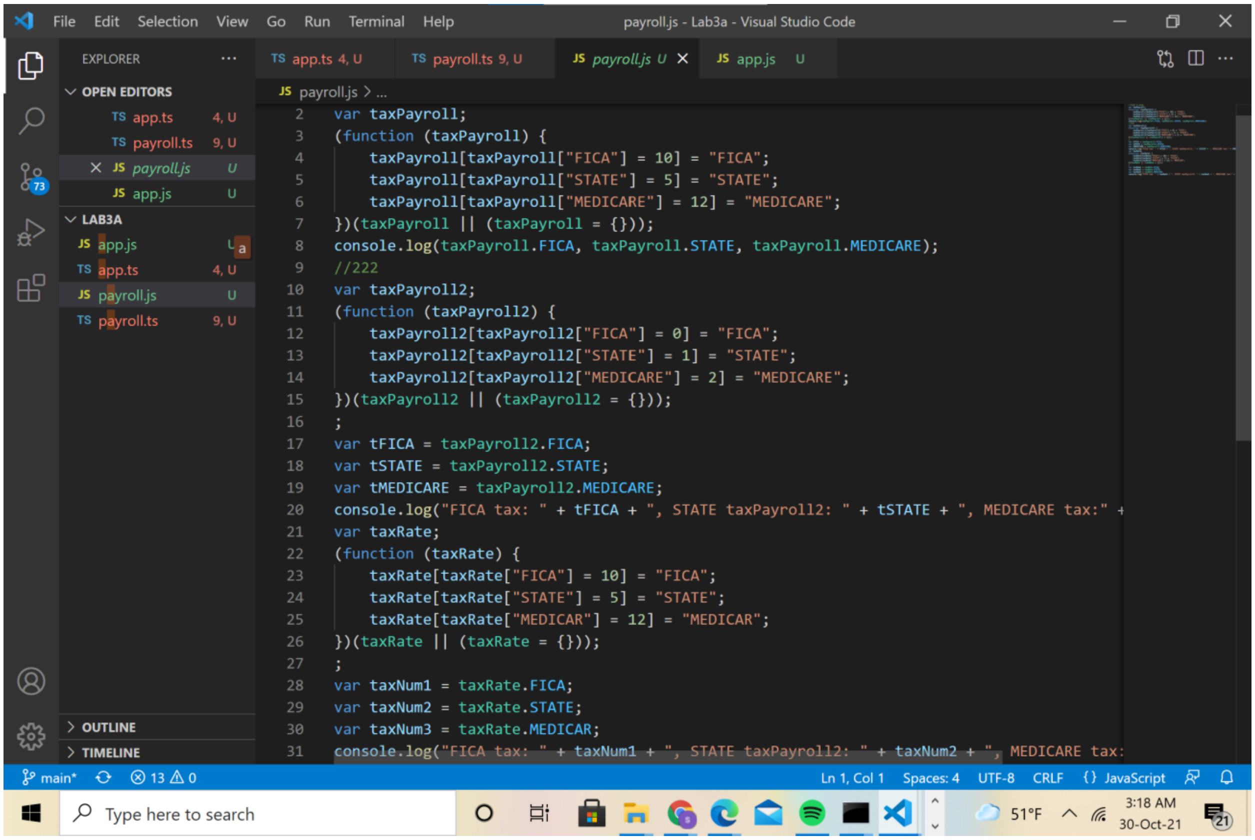
```
The Average of  9,4,1,7,2,3,5,8,10,6 is 5.50
The average of [17,9,4,82,15,36] is 27.17
The average of [9,4,1,7,2,3,5,8,10,6] is 5.50

C:\Users\Selam\Desktop\CS 445\git-repos2\cs445-map-2021\Lab3a>
```



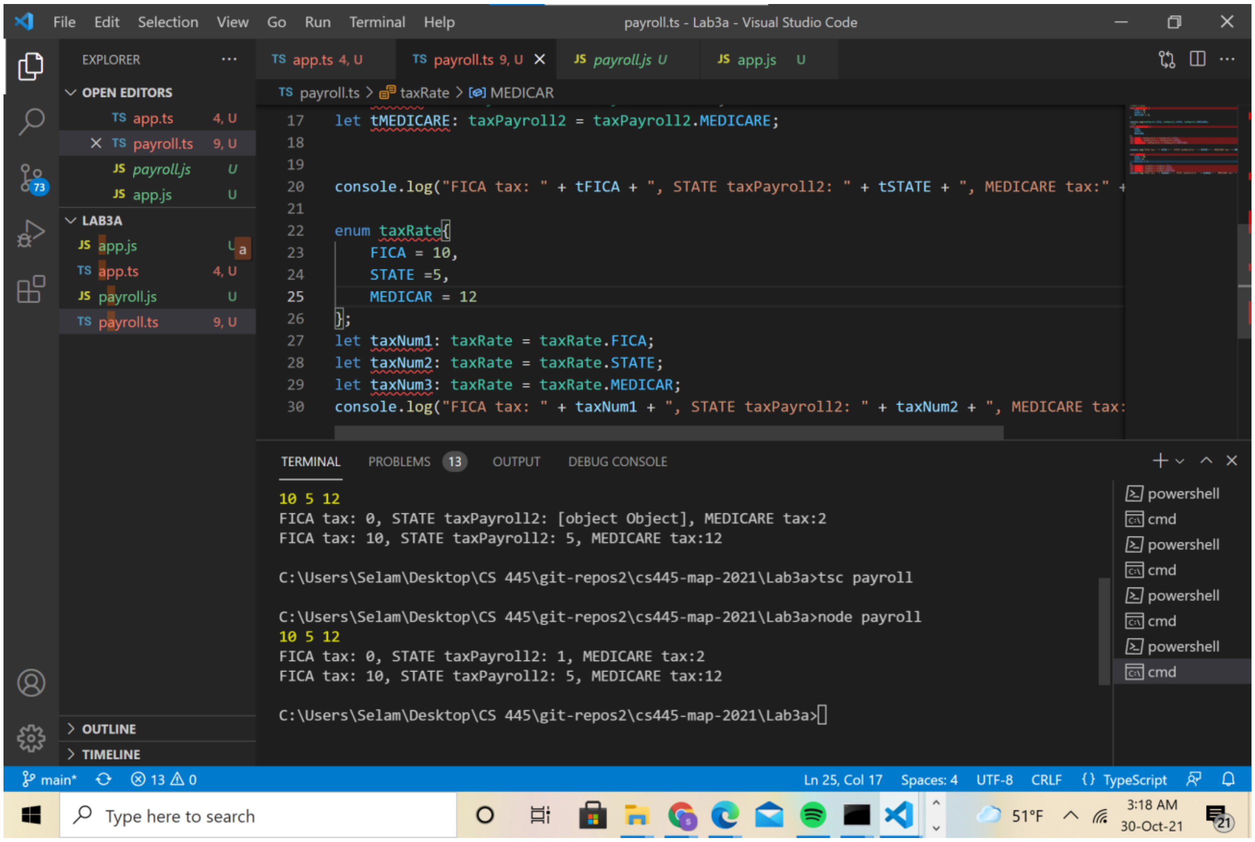
```javascript
//task 3
function calculateAverage(array) {
    var sum = 0;
    for (var _i = 0, array_1 = array; _i < array_1.length; _i++) {
        var element = array_1[_i];
        sum += element;
    }
    return "The Average of  " + array + " is " + (sum / array.length).toFixed(2);
}
console.log(calculateAverage([17, 9, 4, 82, 15, 36]));
console.log(calculateAverage([9, 4, 1, 7, 2, 3, 5, 8, 10, 6]));
//task 3
var arr1 = [17, 9, 4, 82, 15, 36];
var arr2 = [9, 4, 1, 7, 2, 3, 5, 8, 10, 6];
function calcAvg(arr) {
    var sum = 0, average = 0;
    for (var _i = 0, arr_1 = arr; _i < arr_1.length; _i++) {
        var num = arr_1[_i];
        sum += num;
    }
    average = sum / arr.length;
    return "The average of [" + arr + "] is " + average.toFixed(2);
}
console.log(calcAvg(arr1));
console.log(calcAvg(arr2));
```

```
C:\Users\Selam\Desktop\CS 445\git-repos2\cs445-map-2021\Lab3a>
```

4.

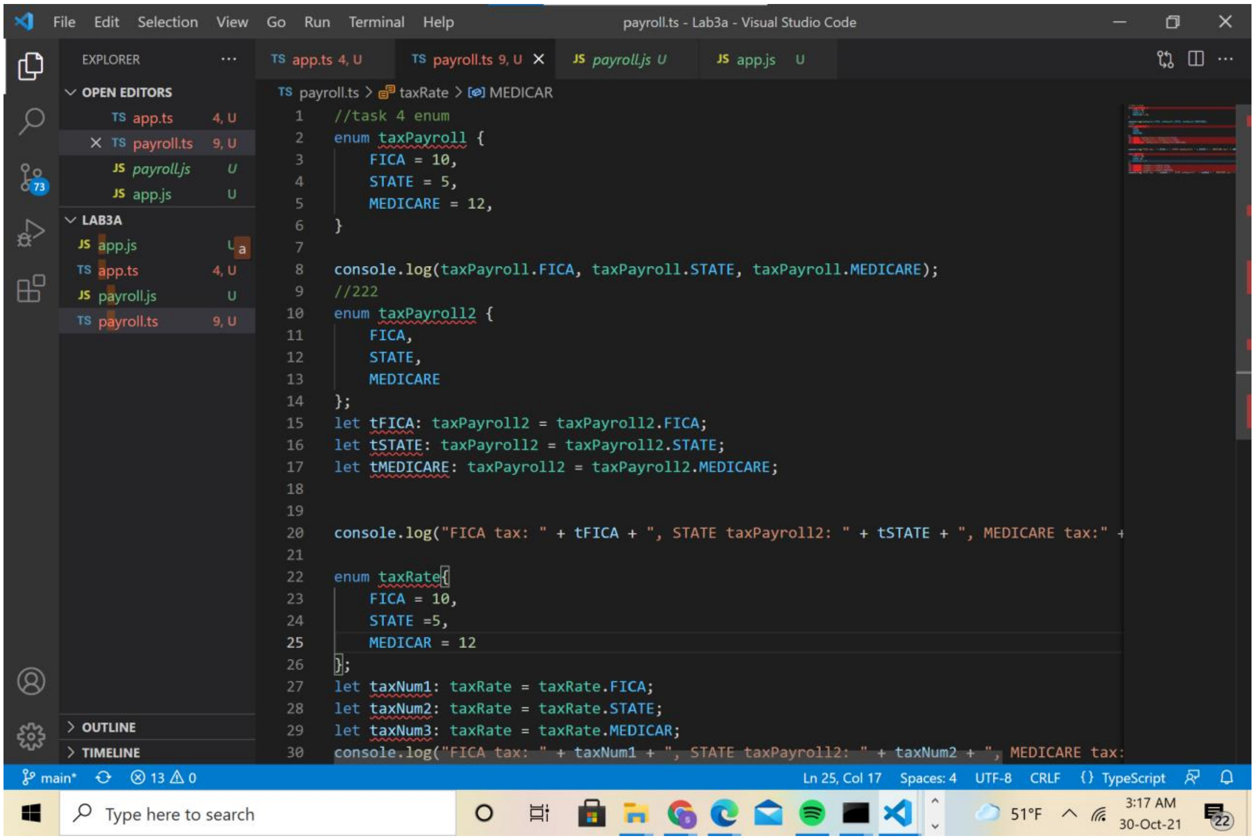


```
var taxPayroll;
(function (taxPayroll) {
    taxPayroll[taxPayroll["FICA"] = 10] = "FICA";
    taxPayroll[taxPayroll["STATE"] = 5] = "STATE";
    taxPayroll[taxPayroll["MEDICARE"] = 12] = "MEDICARE";
})(taxPayroll || (taxPayroll = {}));
console.log(taxPayroll.FICA, taxPayroll.STATE, taxPayroll.MEDICARE);
//222
var taxPayroll2;
(function (taxPayroll2) {
    taxPayroll2[taxPayroll2["FICA"] = 0] = "FICA";
    taxPayroll2[taxPayroll2["STATE"] = 1] = "STATE";
    taxPayroll2[taxPayroll2["MEDICARE"] = 2] = "MEDICARE";
})(taxPayroll2 || (taxPayroll2 = {}));
;
var tFICA = taxPayroll2.FICA;
var tSTATE = taxPayroll2.STATE;
var tMEDICARE = taxPayroll2.MEDICARE;
console.log("FICA tax: " + tFICA + ", STATE taxPayroll2: " + tSTATE + ", MEDICARE tax:" +
var taxRate;
(function (taxRate) {
    taxRate[taxRate["FICA"] = 10] = "FICA";
    taxRate[taxRate["STATE"] = 5] = "STATE";
    taxRate[taxRate["MEDICAR"] = 12] = "MEDICAR";
})(taxRate || (taxRate = {}));
;
var taxNum1 = taxRate.FICA;
var taxNum2 = taxRate.STATE;
var taxNum3 = taxRate.MEDICAR;
console.log("FICA tax: " + taxNum1 + ", STATE taxPayroll2: " + taxNum2 + ", MEDICARE tax:
```



```
let tMEDICARE: taxPayroll2 = taxPayroll2.MEDICARE;


console.log("FICA tax: " + tFICA + ", STATE taxPayroll2: " + tSTATE + ", MEDICARE tax:" +

enum taxRate{
    FICA = 10,
    STATE =5,
    MEDICAR = 12
};
let taxNum1: taxRate = taxRate.FICA;
let taxNum2: taxRate = taxRate.STATE;
let taxNum3: taxRate = taxRate.MEDICAR;
console.log("FICA tax: " + taxNum1 + ", STATE taxPayroll2: " + taxNum2 + ", MEDICARE tax:
```

```
10 5 12
FICA tax: 0, STATE taxPayroll2: [object Object], MEDICARE tax:2
FICA tax: 10, STATE taxPayroll2: 5, MEDICARE tax:12

C:\Users\Selam\Desktop\CS 445\git-repos2\cs445-map-2021\Lab3a>tsc payroll

C:\Users\Selam\Desktop\CS 445\git-repos2\cs445-map-2021\Lab3a>node payroll
10 5 12
FICA tax: 0, STATE taxPayroll2: 1, MEDICARE tax:2
FICA tax: 10, STATE taxPayroll2: 5, MEDICARE tax:12

C:\Users\Selam\Desktop\CS 445\git-repos2\cs445-map-2021\Lab3a>
```



```
//task 4 enum
enum taxPayroll {
    FICA = 10,
    STATE = 5,
    MEDICARE = 12,
}

console.log(taxPayroll.FICA, taxPayroll.STATE, taxPayroll.MEDICARE);
//222
enum taxPayroll2 {
    FICA,
    STATE,
    MEDICARE
};
let tFICA: taxPayroll2 = taxPayroll2.FICA;
let tSTATE: taxPayroll2 = taxPayroll2.STATE;
let tMEDICARE: taxPayroll2 = taxPayroll2.MEDICARE;


console.log("FICA tax: " + tFICA + ", STATE taxPayroll2: " + tSTATE + ", MEDICARE tax:" +

enum taxRate{
    FICA = 10,
    STATE =5,
    MEDICAR = 12
};
let taxNum1: taxRate = taxRate.FICA;
let taxNum2: taxRate = taxRate.STATE;
let taxNum3: taxRate = taxRate.MEDICAR;
console.log("FICA tax: " + taxNum1 + ", STATE taxPayroll2: " + taxNum2 + ", MEDICARE tax:
```