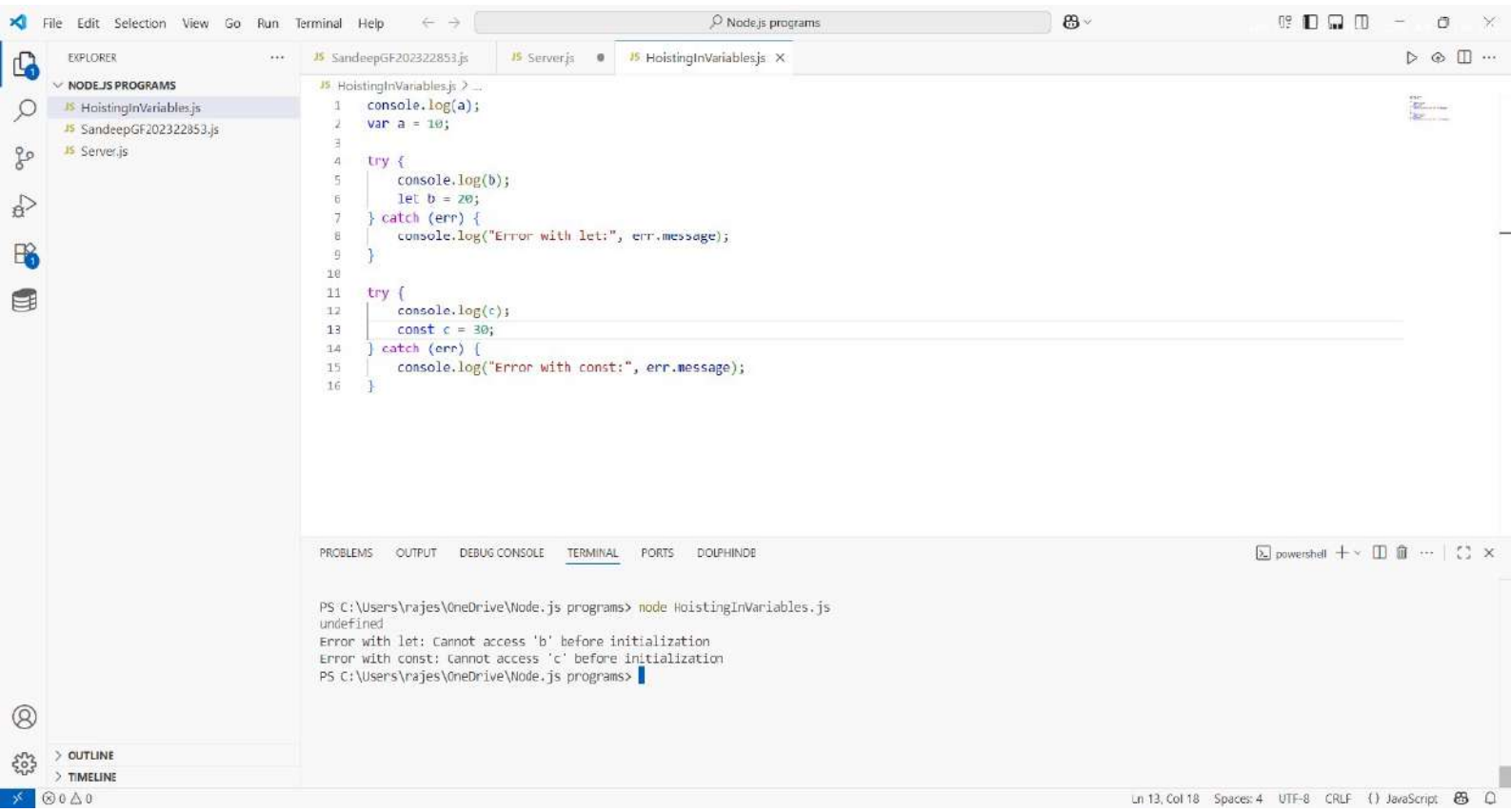
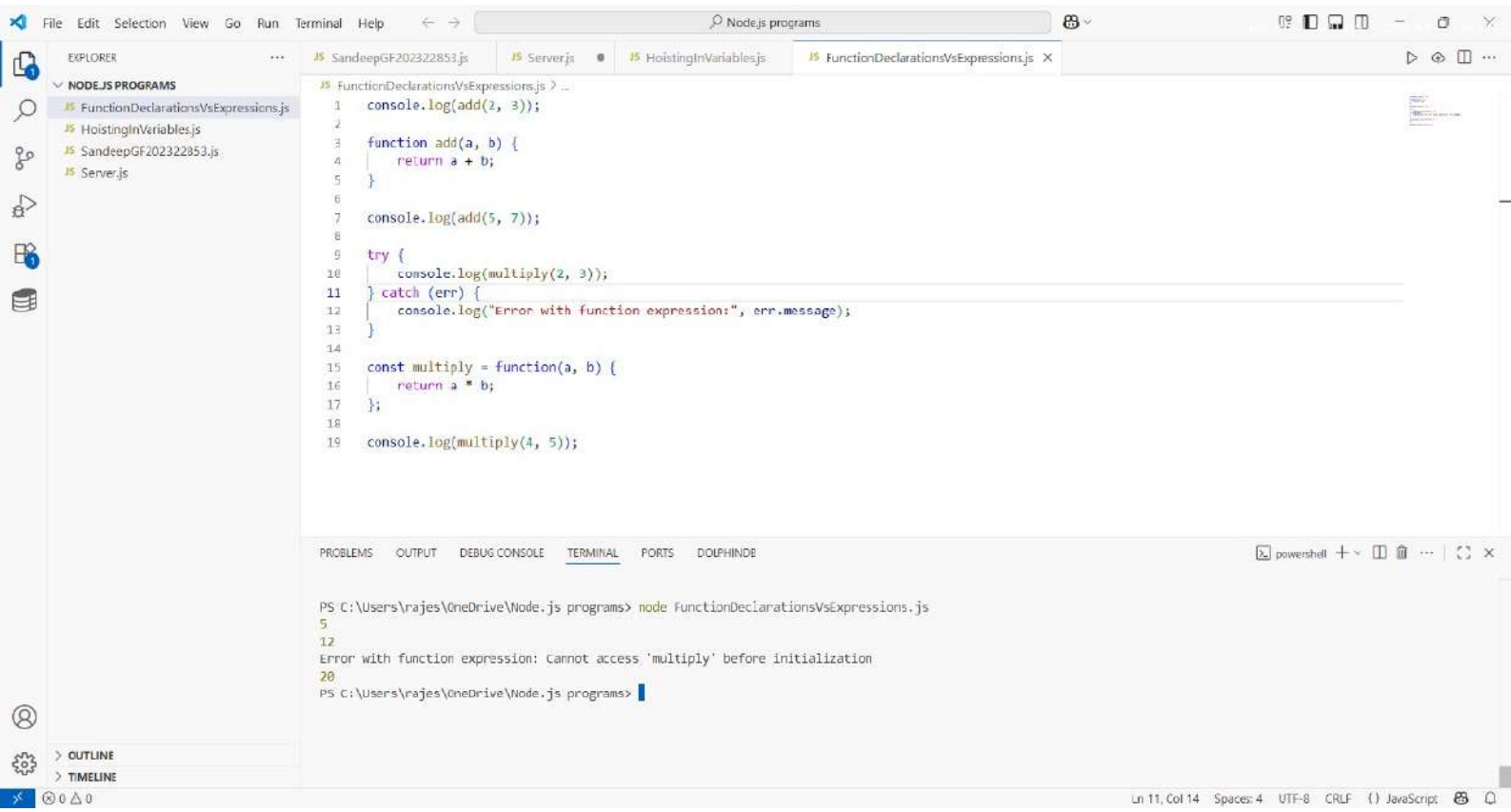

File Edit Selection View Go Run Terminal Help
Node.js programs
EXPLORER
NODE.JS PROGRAMS
HoistingInVariables.js
SandeepGF202322853.js
Server.js
SandeepGF202322853.js
Server.js
HoistingInVariables.js
HoistingInVariables.js > ...
1 console.log(a);
2 var a = 10;
3
4 try {
5 console.log(b);
6 let b = 20;
7 } catch (err) {
8 console.log("Error with let:", err.message);
9 }
10
11 try {
12 console.log(c);
13 const c = 30;
14 } catch (err) {
15 console.log("Error with const:", err.message);
16 }
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS DOLPHINDB
powershell
PS C:\Users\rajes\OneDrive\Node.js programs> node HoistingInVariables.js
undefined
Error with let: Cannot access 'b' before initialization
Error with const: Cannot access 'c' before initialization
PS C:\Users\rajes\OneDrive\Node.js programs>
OUTLINE
TIMELINE
Ln 13, Col 18 Spaces: 4 UTF-8 CRLF JavaScript

Explanation of Output:

1. Using var
   - The variable a is hoisted (moved to the top in memory) but not assigned a value yet.
   - That's why printing a before its declaration gives undefined instead of an error.

2. Using let
   - let is also hoisted but it stays in a "temporal dead zone" until it is initialized.
   - Accessing it before declaration gives an error.

3. Using const
   - Works like let, but it also must be assigned a value immediately when declared.
   - Accessing it before declaration gives an error as well.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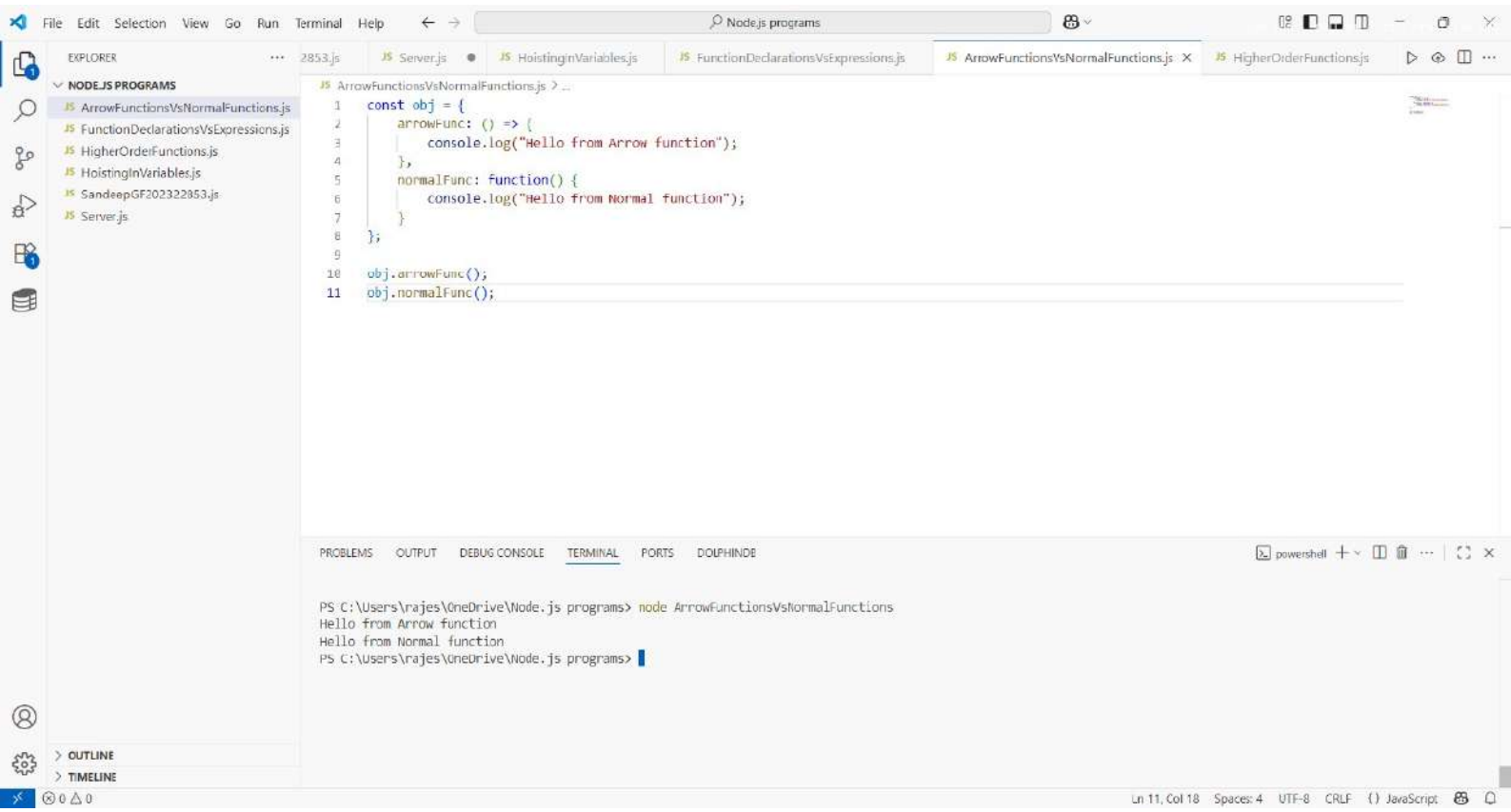
Node.js programs
EXPLORER
NODE.JS PROGRAMS
FunctionDeclarationsVsExpressions.js
HoistingInVariables.js
SandeepGF202322853.js
Server.js
SandeepGF202322853.js
Server.js
HoistingInVariables.js
FunctionDeclarationsVsExpressions.js
FunctionDeclarationsVsExpressions.js > ...
1 console.log(add(2, 3));
2
3 function add(a, b) {
4 return a + b;
5 }
6
7 console.log(add(5, 7));
8
9 try {
10 console.log(multiply(2, 3));
11 } catch (err) {
12 console.log("Error with function expression:", err.message);
13 }
14
15 const multiply = function(a, b) {
16 return a * b;
17 };
18
19 console.log(multiply(4, 5));
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS DOLPHINDB
powershell
PS C:\Users\rajes\OneDrive\Node.js programs> node FunctionDeclarationsVsExpressions.js
5
12
Error with function expression: Cannot access 'multiply' before initialization
20
PS C:\Users\rajes\OneDrive\Node.js programs>
OUTLINE
TIMELINE
Ln 11, Col 14 Spaces: 4 UTF-8 CRLF JavaScript

What Works and What Fails:

1. Calling add before declaration → Works
   - Function declarations are hoisted completely (both name and body).
   - So add(2,3) runs fine even if called before the function definition.

2. Calling multiply before declaration → Fails
   - Function expressions (when stored in const/let) are not initialized until that line of code runs.
   - So calling multiply before it's defined gives an error.

3. Calling multiply after declaration → Works
   - Once assigned, multiply(2,3) runs fine and prints 6.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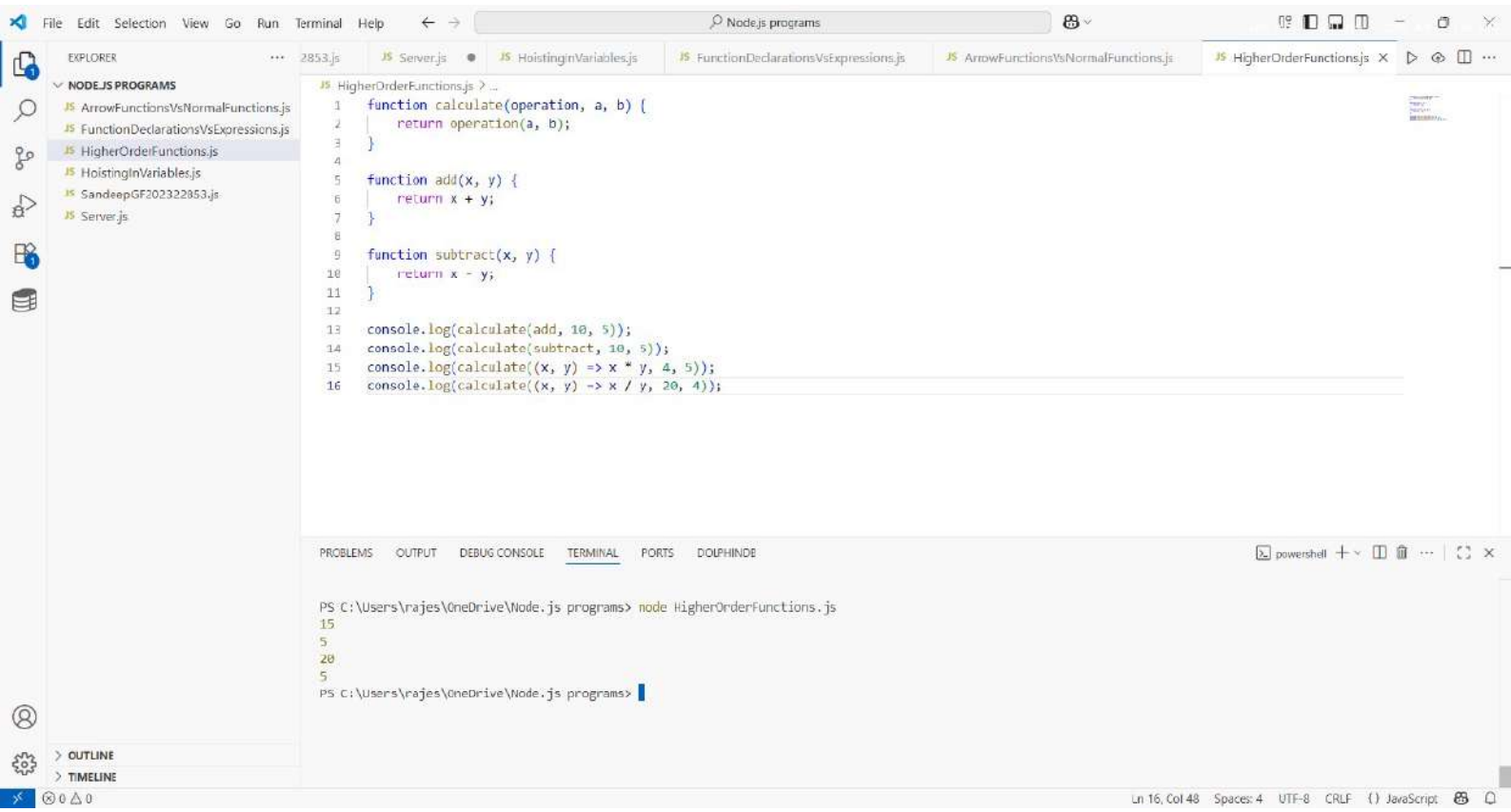
Node.js programs
EXPLORER
NODE.JS PROGRAMS
ArrowFunctionsVsNormalFunctions.js
FunctionDeclarationsVsExpressions.js
HigherOrderFunctions.js
HoistingInVariables.js
SandeepGF202322853.js
Server.js
2853.js
Server.js
HoistinginVariables.js
FunctionDeclarationsVsExpressions.js
ArrowFunctionsVsNormalFunctions.js
HigherOrderFunctions.js
ArrowFunctionsVsNormalFunctions.js > ...
1 const obj = {
2 arrowFunc: () => {
3 console.log("Hello from Arrow function");
4 },
5 normalFunc: function() {
6 console.log("Hello from Normal function");
7 }
8 };
9
10 obj.arrowFunc();
11 obj.normalFunc();
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS DOLPHINDB
powershell
PS C:\Users\rajes\OneDrive\Node.js programs> node ArrowFunctionsVsNormalFunctions
Hello from Arrow function
Hello from Normal function
PS C:\Users\rajes\OneDrive\Node.js programs>
OUTLINE
TIMELINE
Ln 11, Col 18 Spaces: 4 UTF-8 CRLF {} JavaScript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2853.js
Server.js
HoistinginVariables.js
FunctionDeclarationsVsExpressions.js
ArrowFunctionsVsNormalFunctions.js
HigherOrderFunctions.js
HigherOrderFunctions.js > ...
1 function calculate(operation, a, b) {
2 return operation(a, b);
3 }
4
5 function add(x, y) {
6 return x + y;
7 }
8
9 function subtract(x, y) {
10 return x - y;
11 }
12
13 console.log(calculate(add, 10, 5));
14 console.log(calculate(subtract, 10, 5));
15 console.log(calculate((x, y) => x * y, 4, 5));
16 console.log(calculate((x, y) -> x / y, 20, 4));
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS DOLPHINDB
powershell
PS C:\Users\rajes\OneDrive\Node.js programs> node HigherOrderFunctions.js
15
5
20
5
PS C:\Users\rajes\OneDrive\Node.js programs>
OUTLINE
TIMELINE
Ln 16, Col 48 Spaces: 4 UTF-8 CRLF {} JavaScript