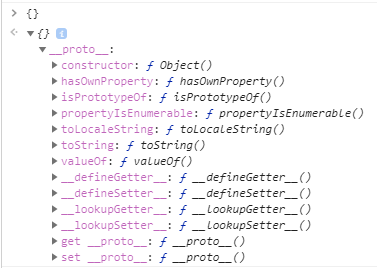
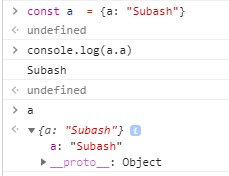
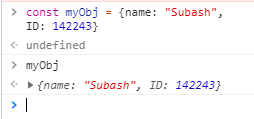
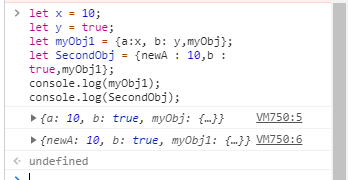
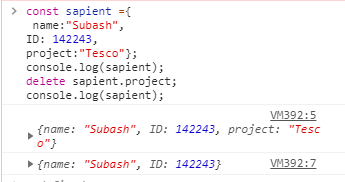
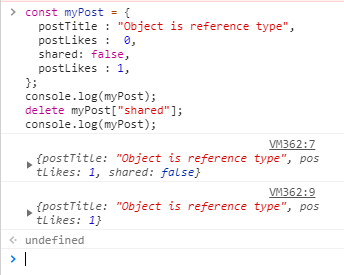
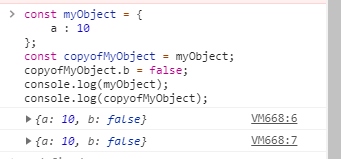
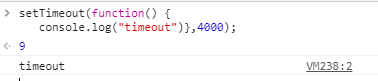
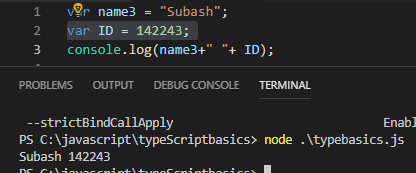
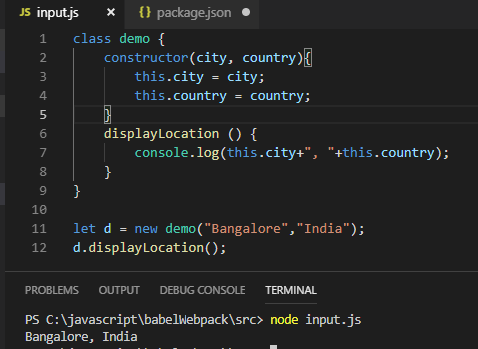
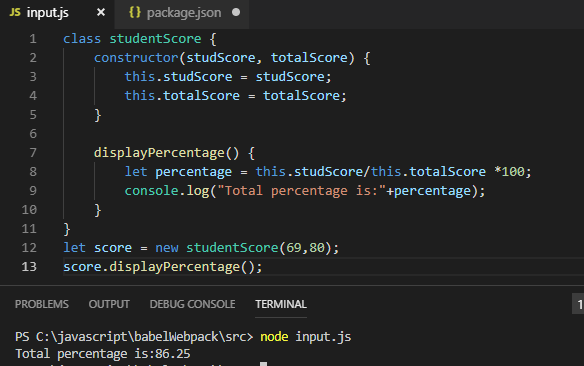
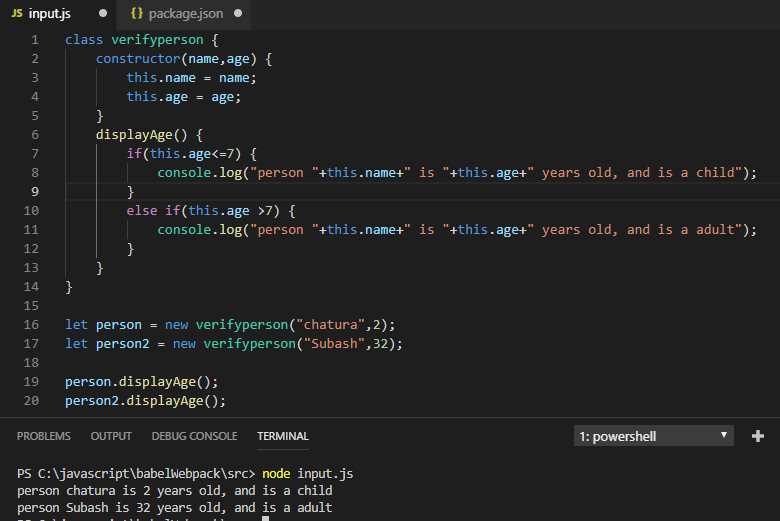
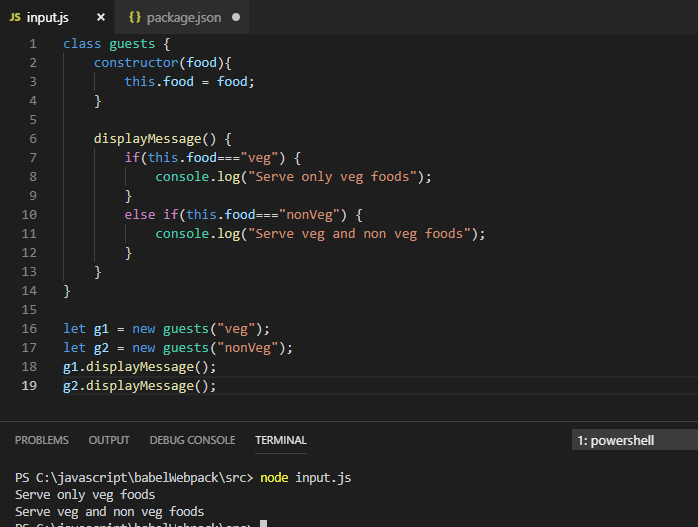
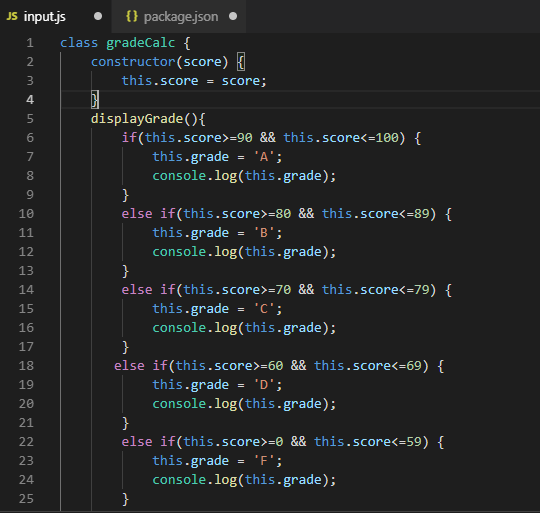
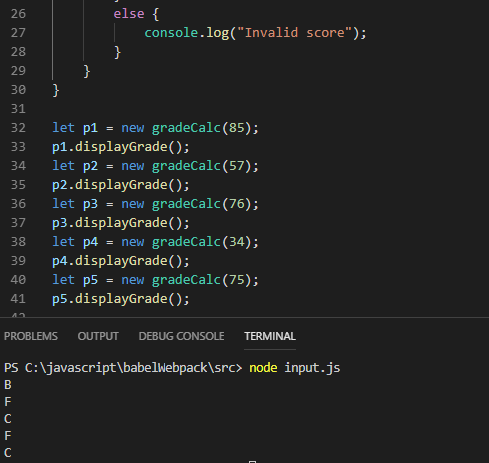
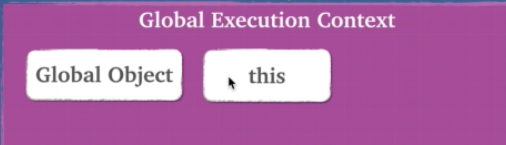
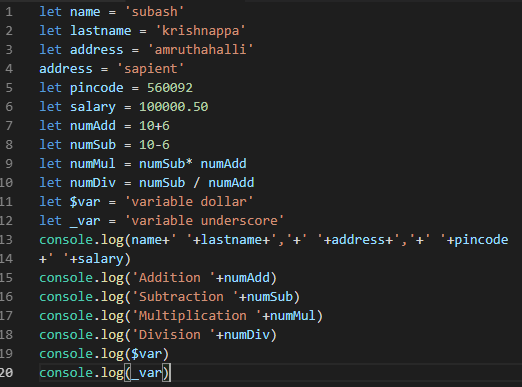
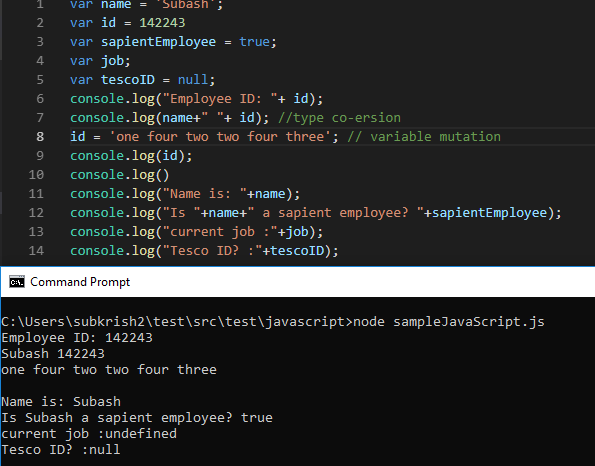
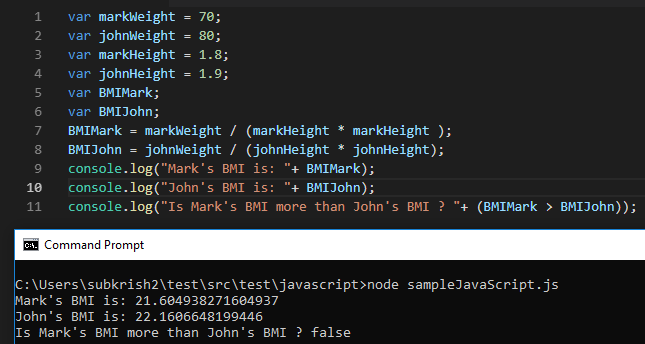
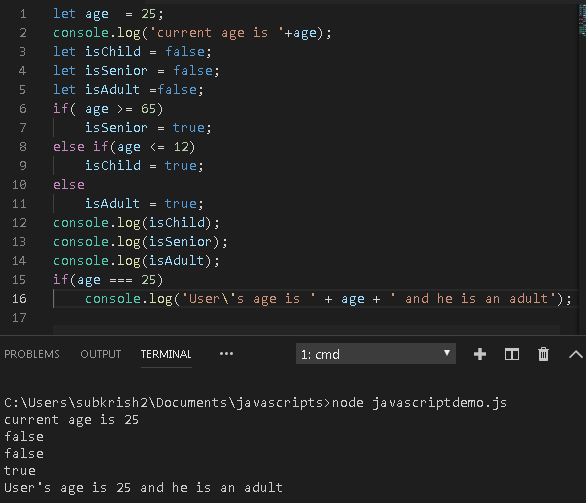
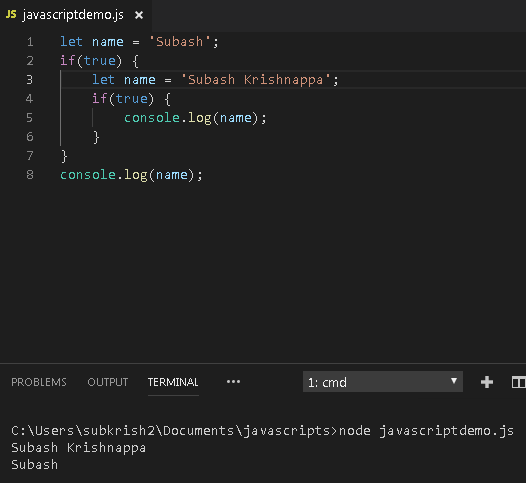
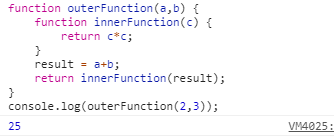
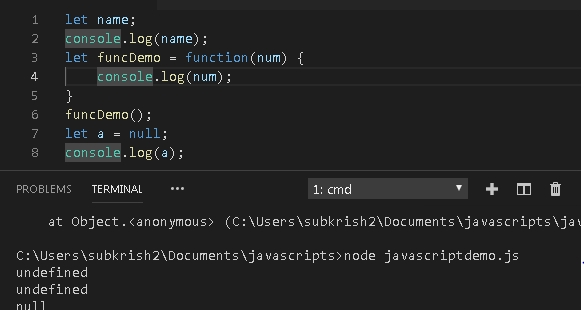
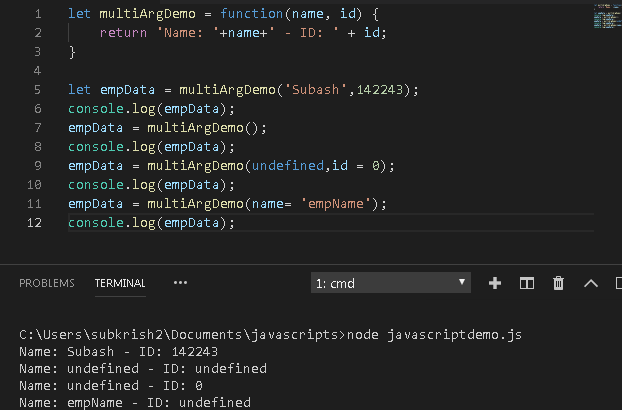
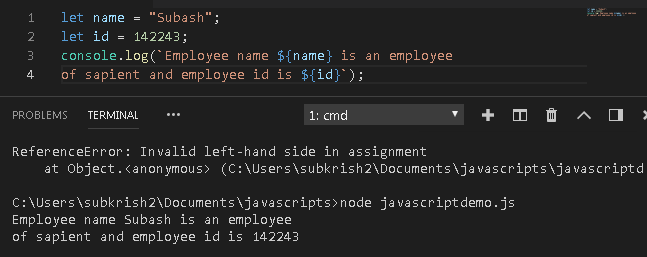
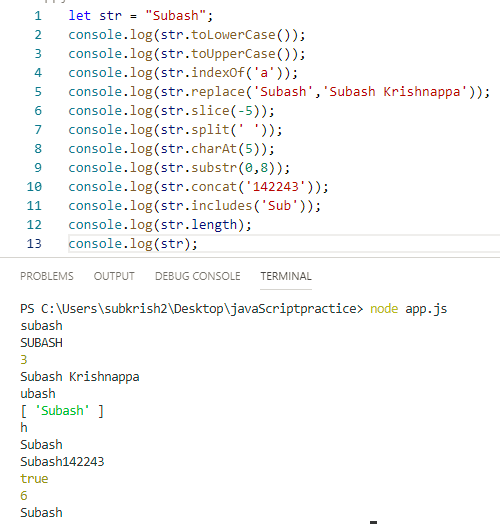
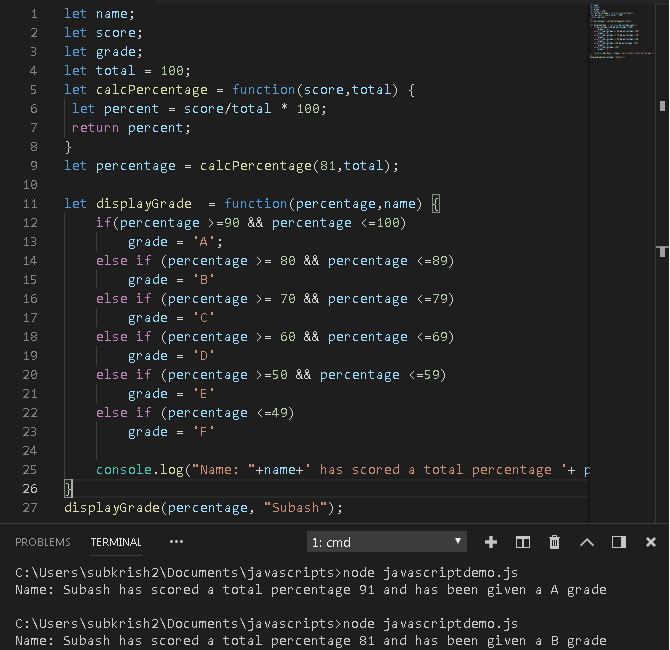
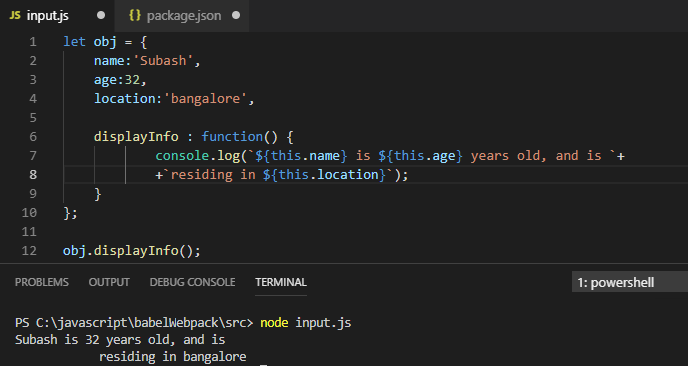
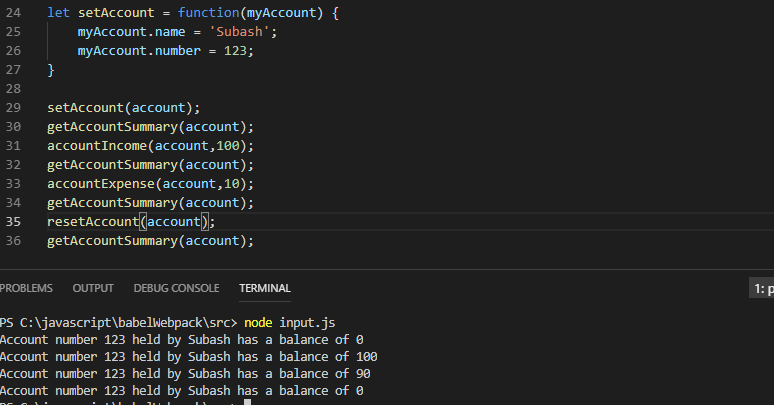
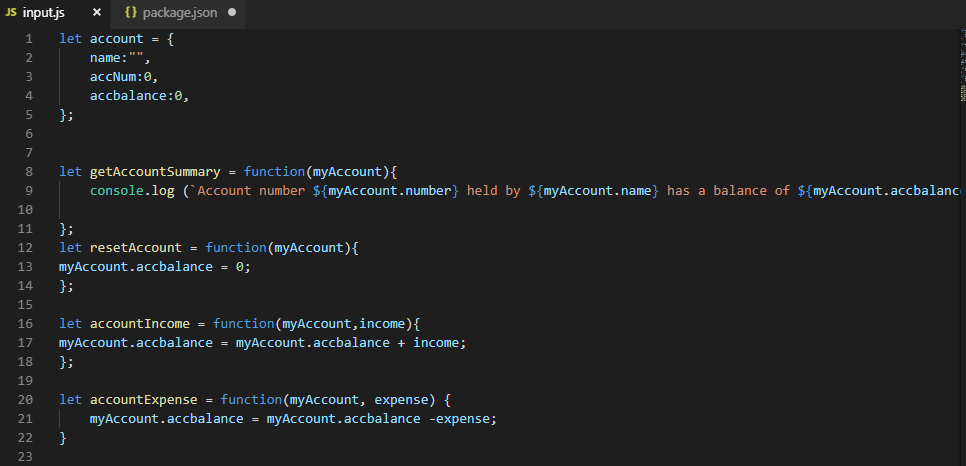
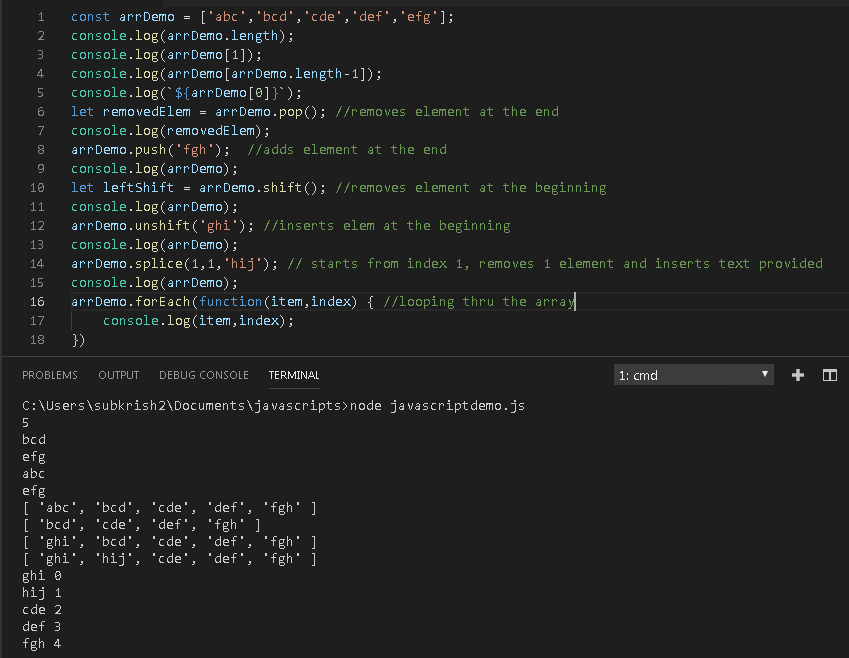
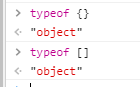
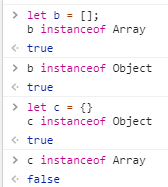
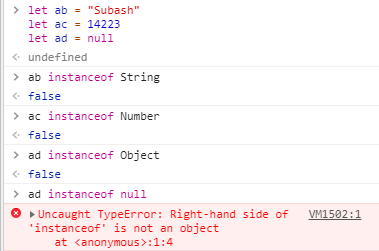
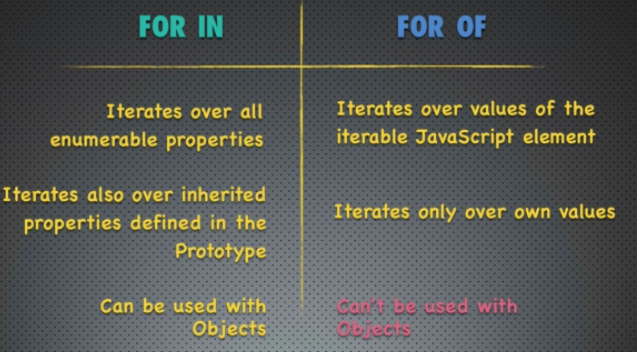
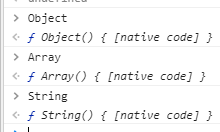
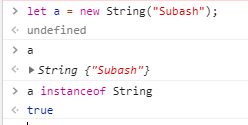
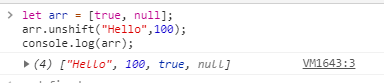
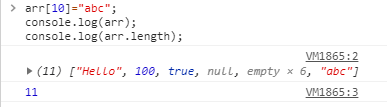
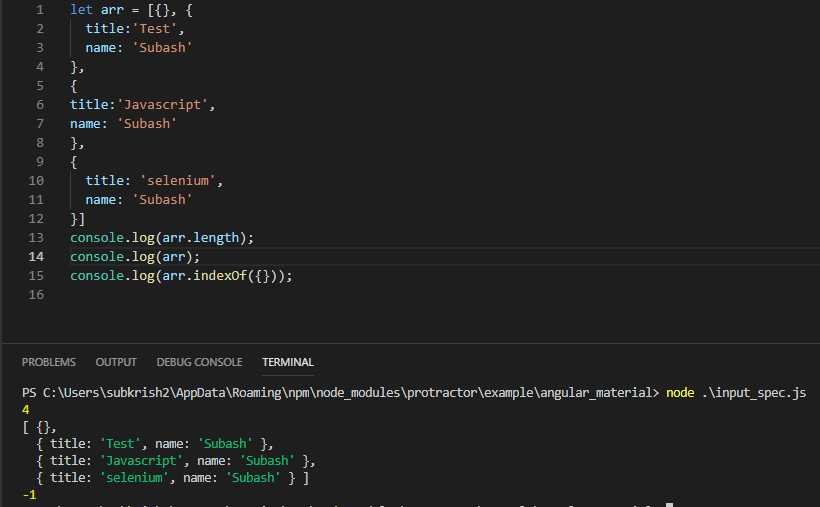
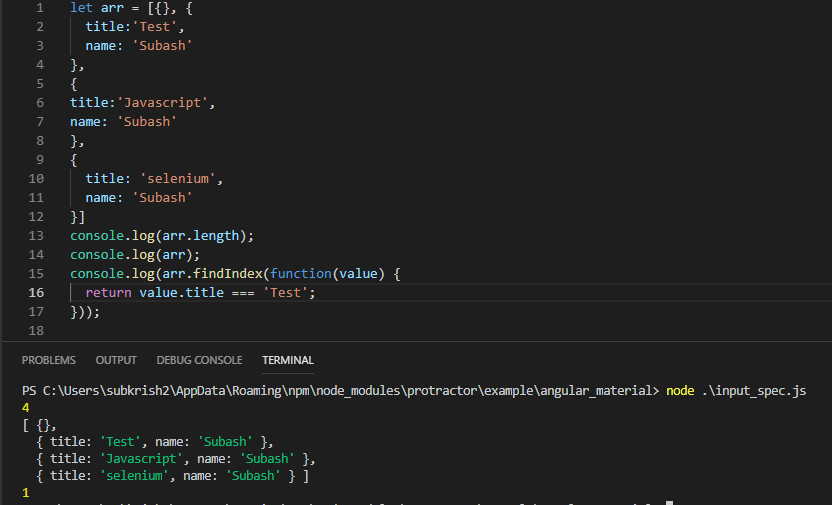
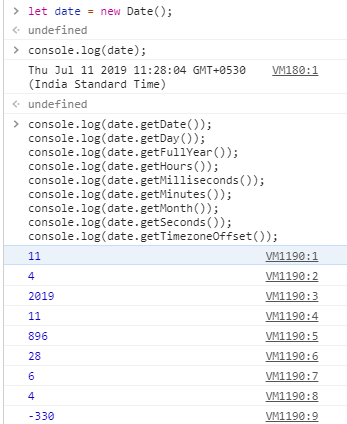
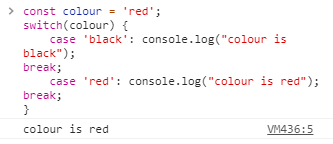
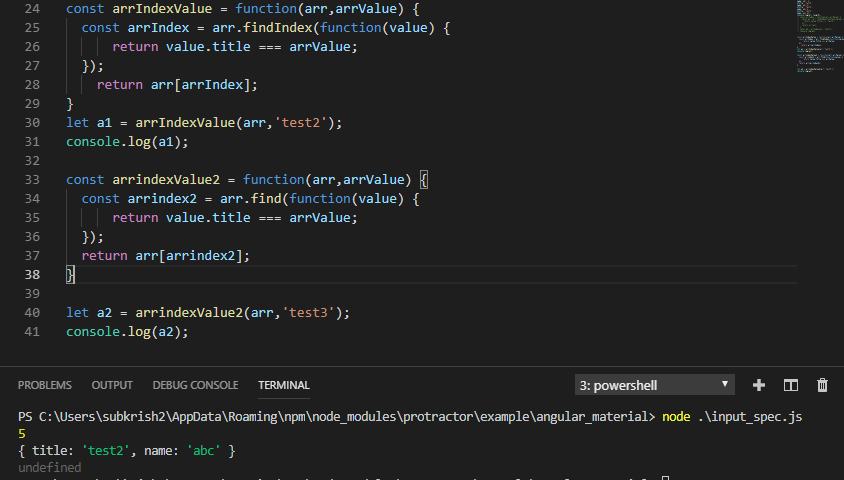
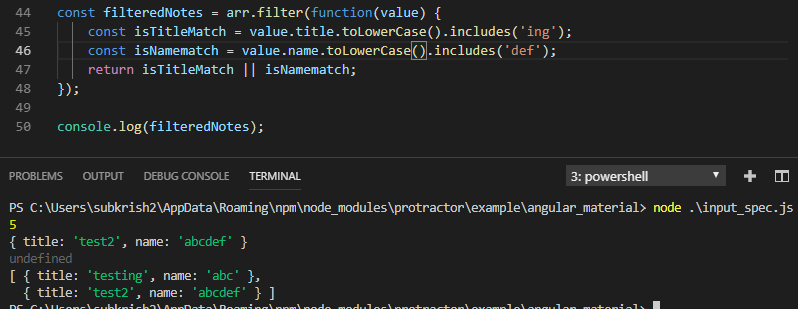
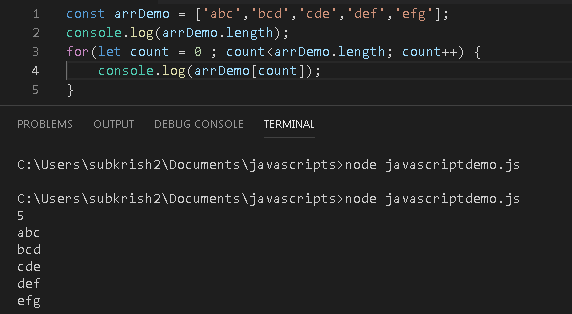
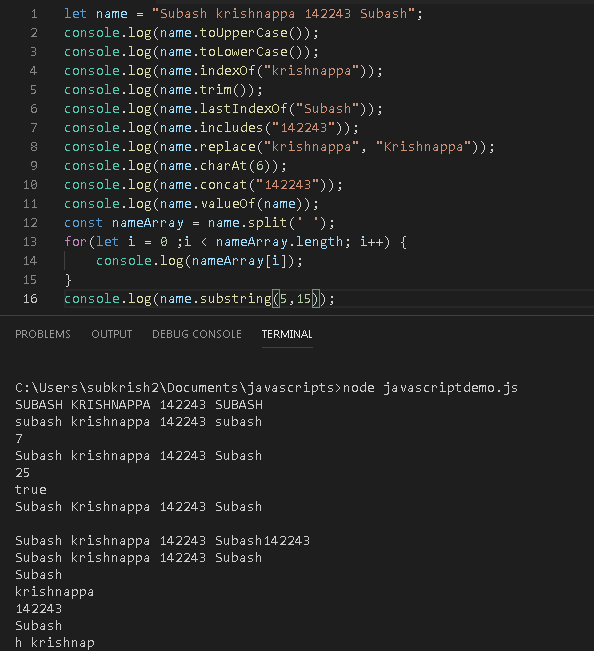
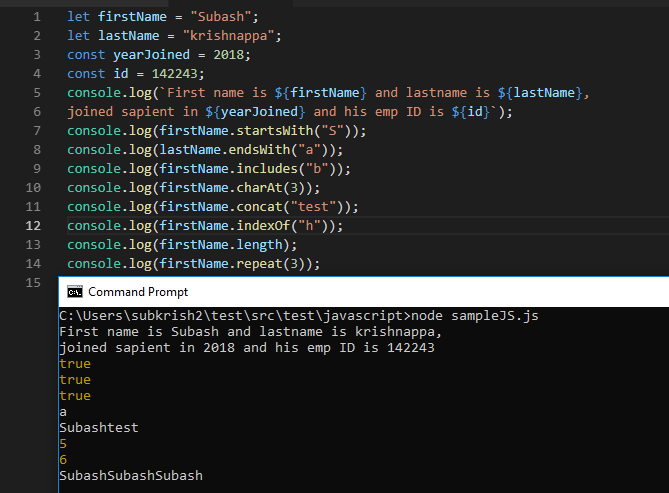
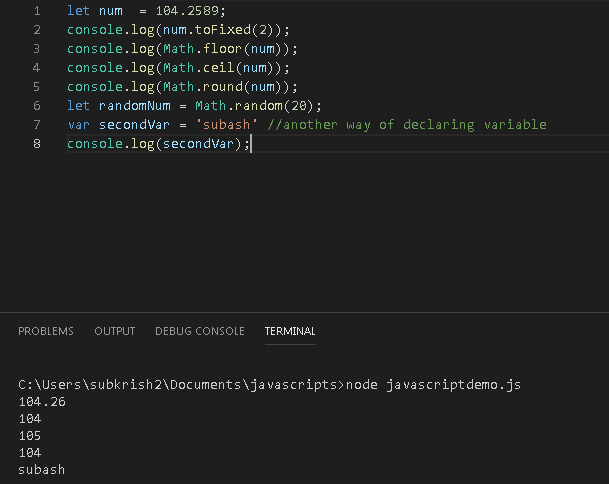
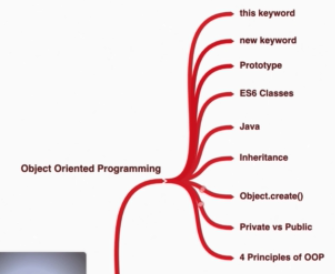
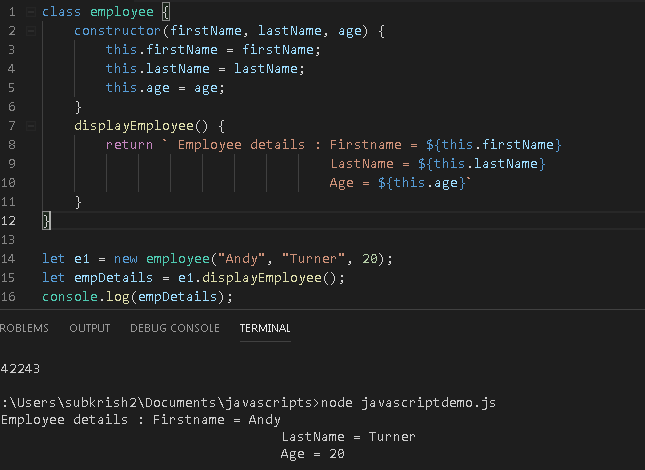
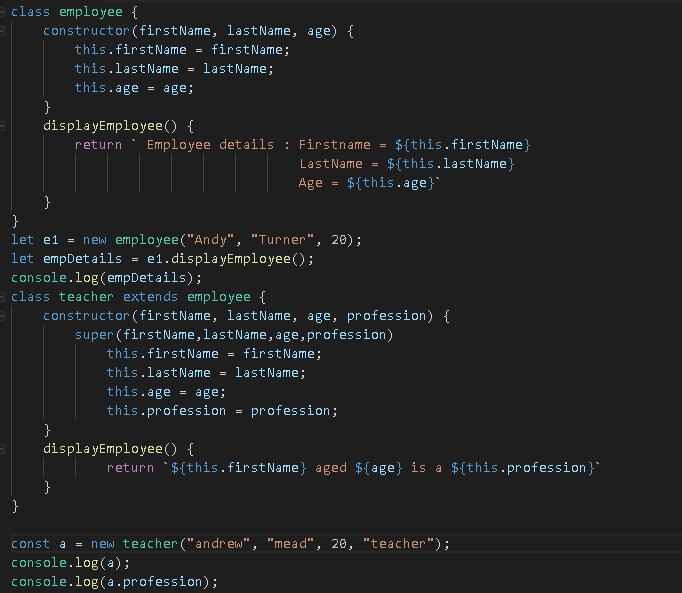
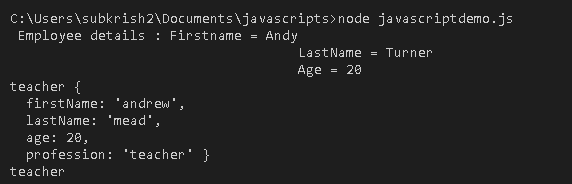
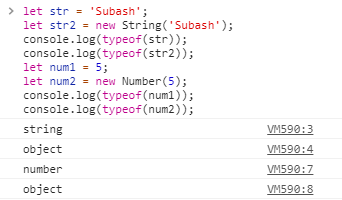
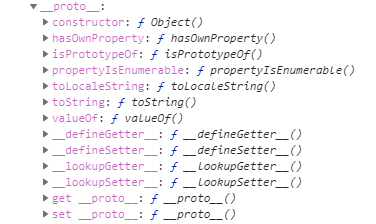
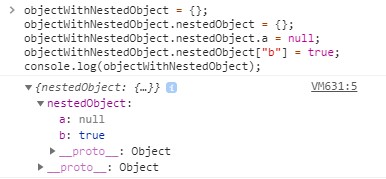
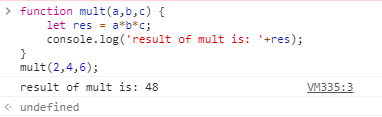
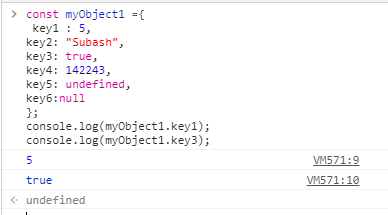
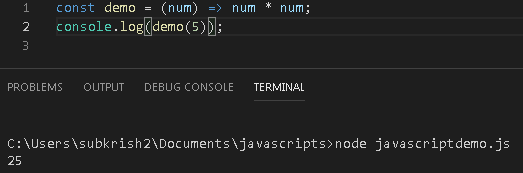
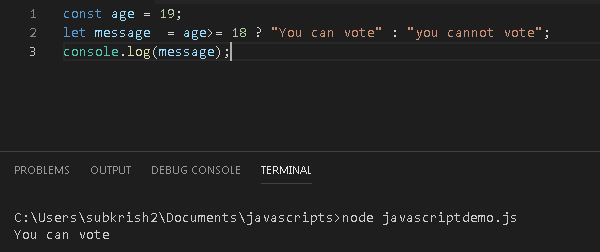
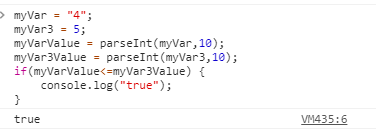
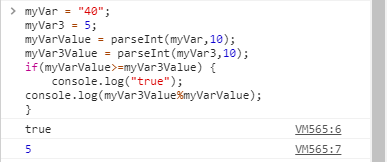
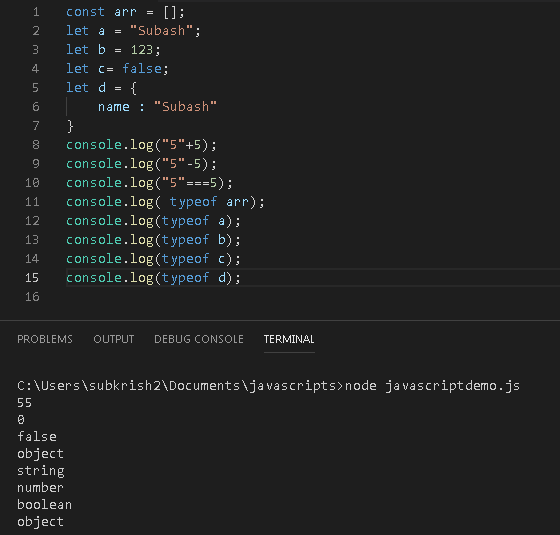
1. Java script is a lightweight, dynamically typed cross platform and fully object oriented (name value pairs) programming language
2. Primitive Data types: Number, string, Boolean, undefined, null, symbol
3. Difference between undefined and null, we can never manually assign undefined to any variable but can manually assign null to a variable
4. We cannot trigger garbage collection in javascript manually it is mostly implicit
5. Reference type: Object -> is a function  
     
     
   
6. 
7. Javascript has dynamic typing -> data type is automatically assigned to variables, java script engine determines which data type a variable data type is at the run time  
   
8. 
9. 
10. Dot notation and bracket notation:  
    
11. 
12. 
13. 
14. Everything in as an object in javascript, either it is an object or behaves as an object, javascript is object based language
15. Converting ES6 to ES 5 is called as transpiling or polyfilling
16. 
17. Type Coercion:  
    
18. 
19. 
20. 
21. 
22. Grade Calculator:  
      
    
23. Execution Context:   
    When a function is to be executed, it adds the function name on to the call stack, after all statements are executed, the function name is removed from call stack  
    global() -> execution context is the base of execution context  
    function() - > execution context is the function scope   
    
24. Javascript has dynamic typing-> data types is assigned automatically:  
     
25. 
26. Compare BMI of two individuals:  
    
27. 

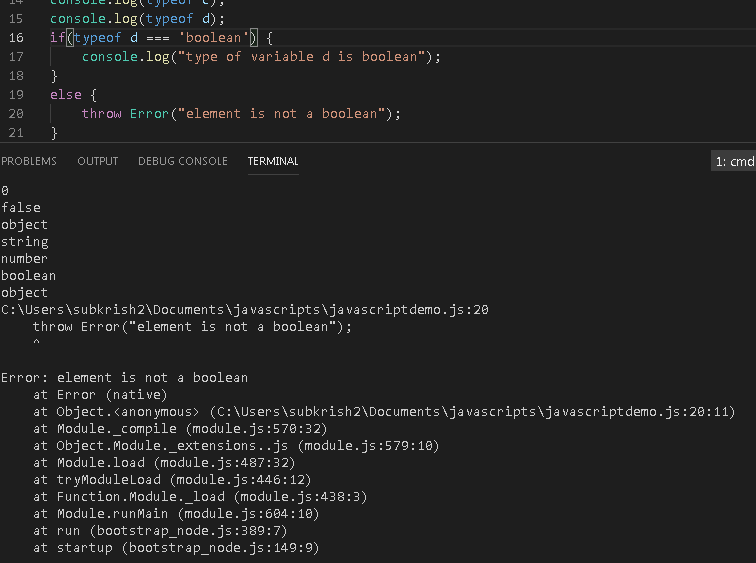


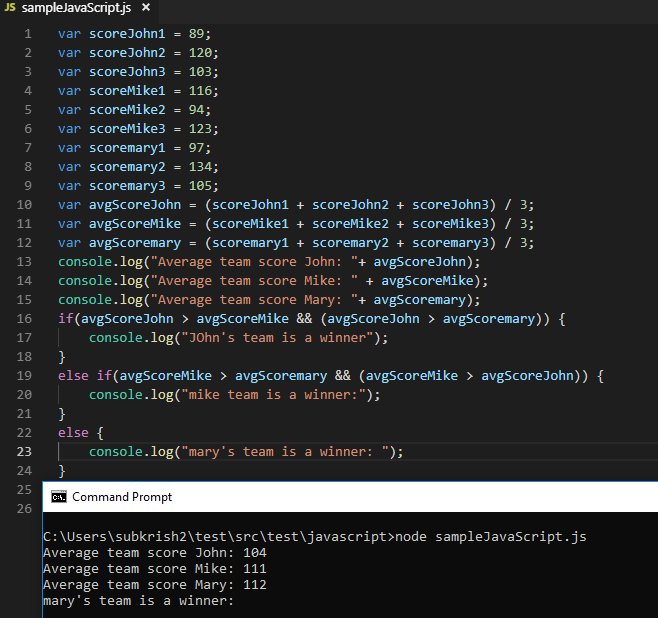
1. Variable shadowing:  
   
2. leaked global variable
3. Functions:   
   
4. undefined and null:
5. Multi Arguments and default values:  
   
6. Template Literal Strings:   
   
7. String functions  
   
8. 
9. Java script Objects:  
   
10. Object Functions:   
    
11. 
12. 
13. Object shorthand Operators:
14. Arrays: Is a special type of object  
    
15. 
16. 
17. 
18.   
    As the values of the variables ab, ac, ad are primitive data types,   
    
19. 
20. Add elements at the beginning of the array:  
    
21. Insert element to specific index  
    
22. Array of Objects:
23. Array.indexOf  
    
24. Array.findindex():  
    
25. Date library:  
    
26. Switches:  
    
27. find:   
    
28. filter:  
    
29. for loop on an array:  
    
30. String methods  
      
    
31. var : declaring variable  
    
32. Object oriented programming:  
      
    is about modelling real world objects and relationships  
    Classes:  
    
33. subclasses  
      
    
34. 
35. Prototype:  
    All JavaScript objects inherit properties and methods from a prototype.  
    
36. 
37. 
38. 
39. arrowFunctions:  
    
40. Ternary operator:

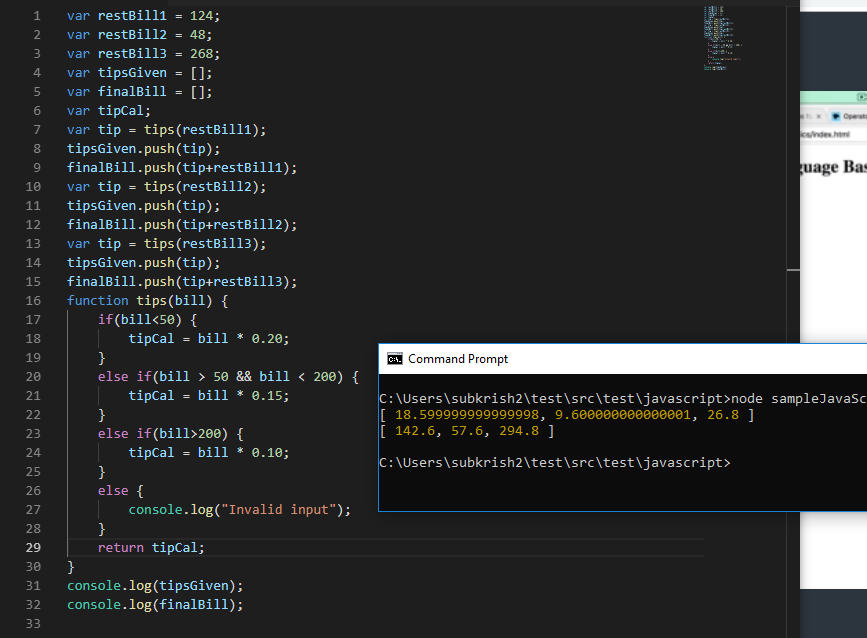
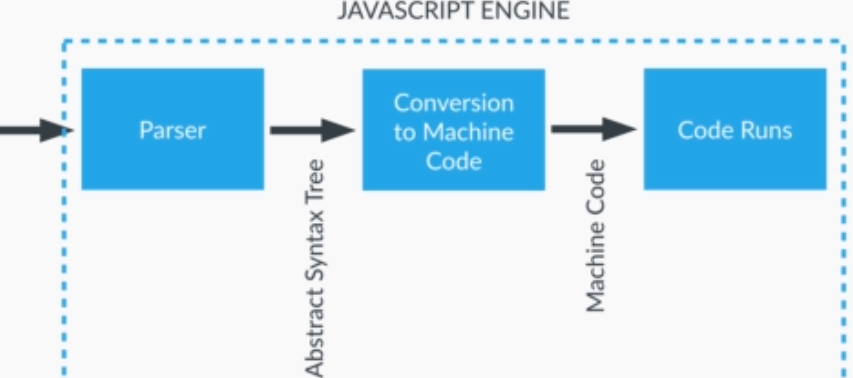
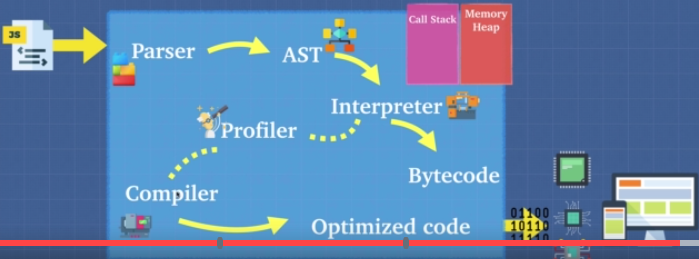


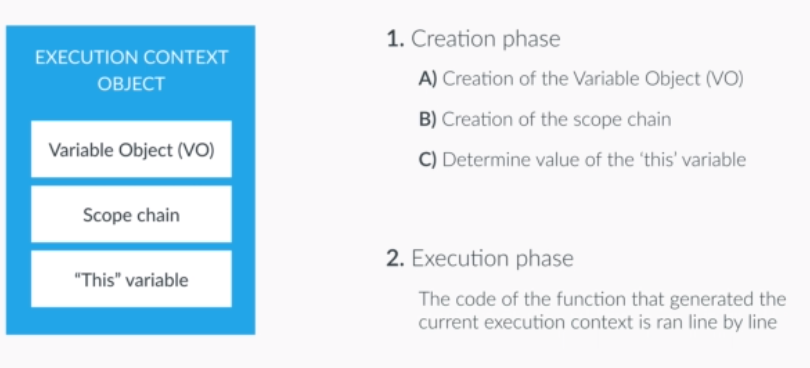
1. Truthy and Falsy  
     
   Values after conversion to Boolean value type returns a true are truthy values  
   Values after conversion to Boolean value type returns a false are falsy values
2. 
3. 
4. Type Coersion:

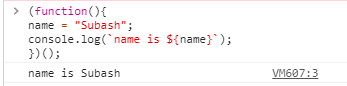
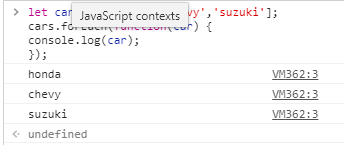
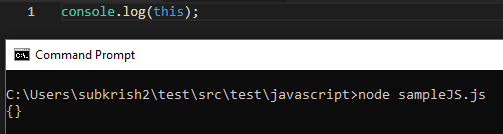
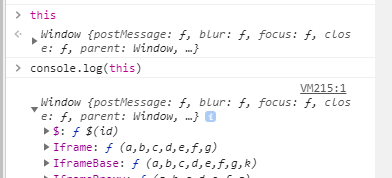
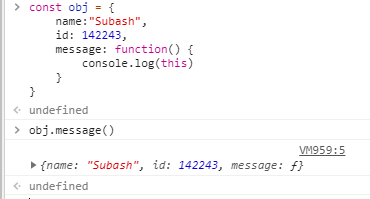
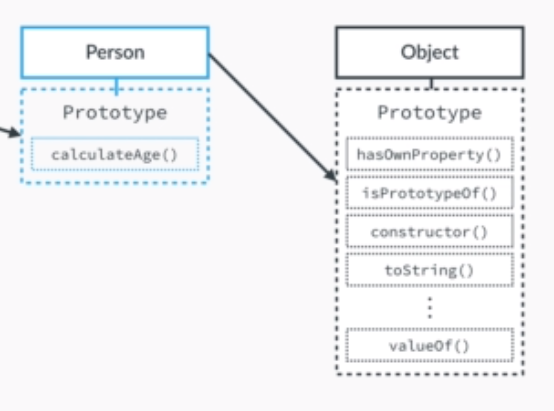
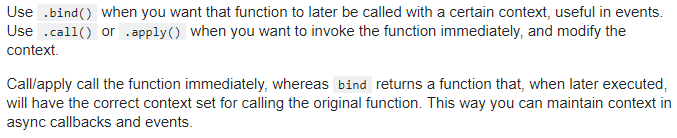
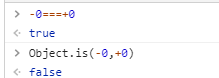
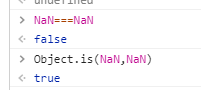
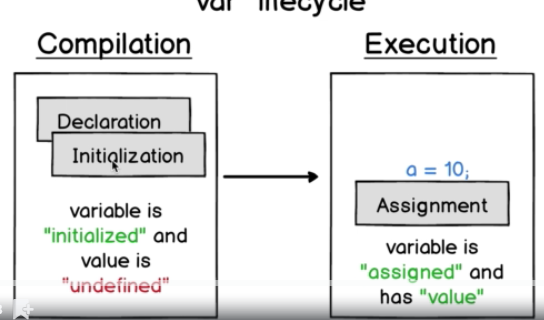
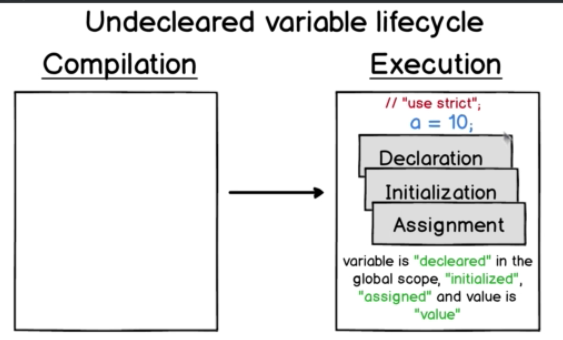
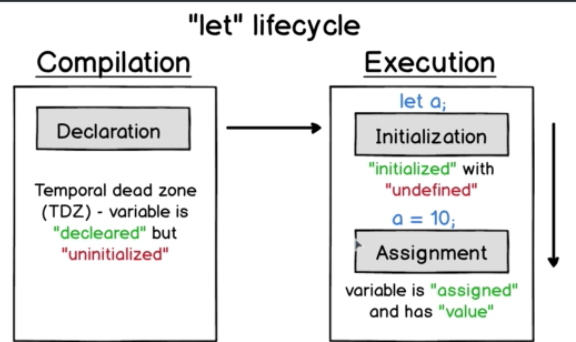
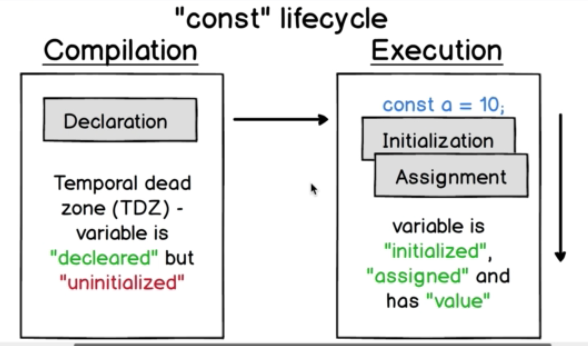
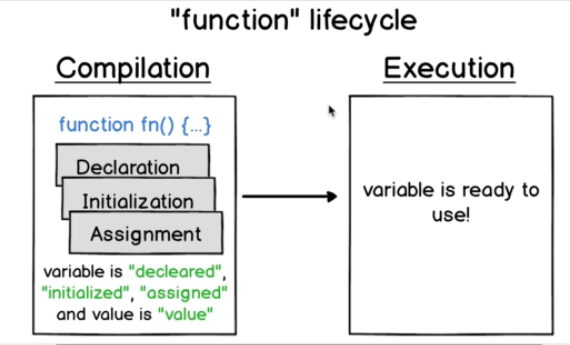
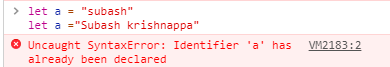
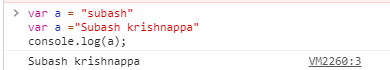
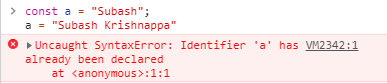
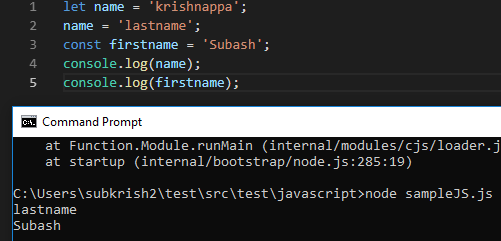
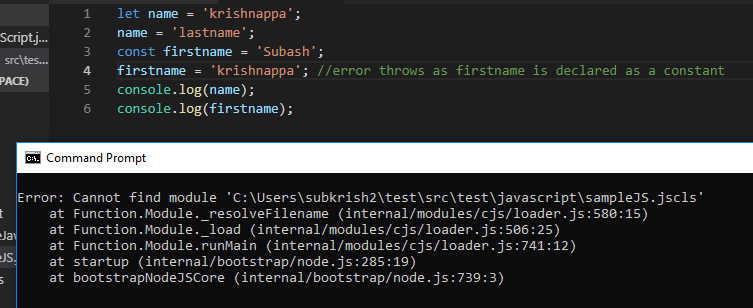


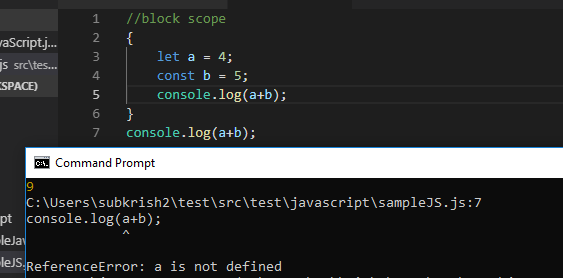
1. throw   
   

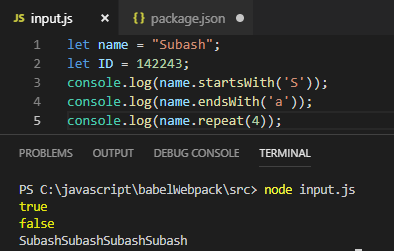
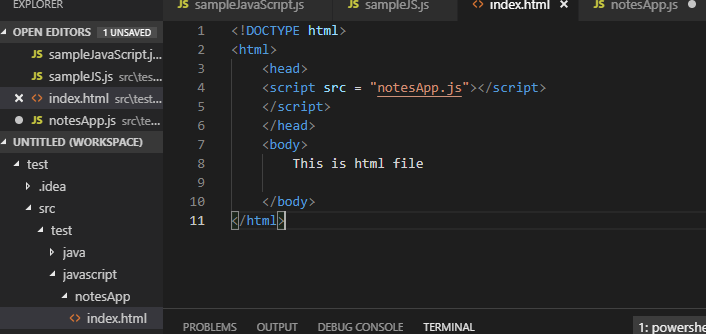
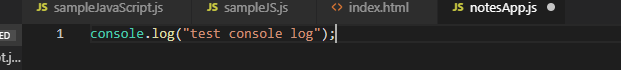
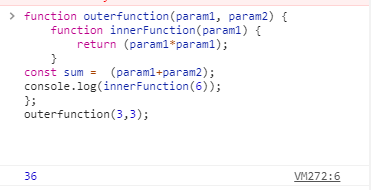
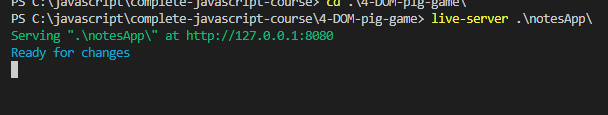


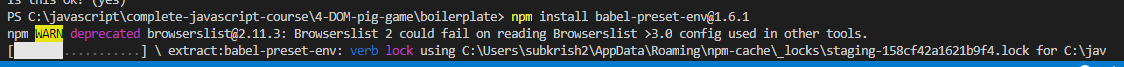
1. Tip Calculator:  
   
2. host where java script engine is written , java script engine takes our JS code and executes it,   
     
   
3. JavaScript Engine: examples of javascript engine are V8, Chakra, First javascript engine was created by Brendan Eich, known as Spider Monkey
4. Global Execution Context
5. Execution Context -> methods()



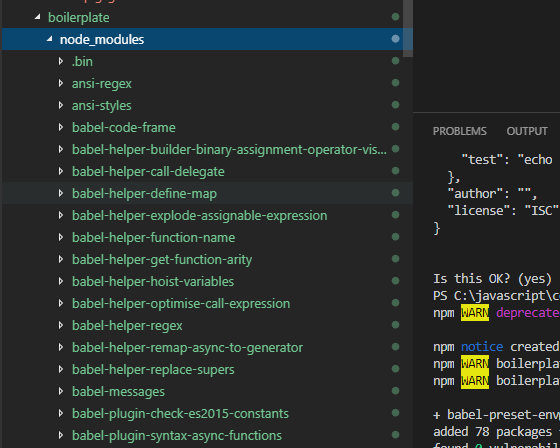
1. Functions and variables in js are hoisted -> they are made avaiable before execution actually starts Each new function creates new scope   
   Lexical Scoping: If a function is created within another function  
   Hoisting -> Compilation+Execution
2. IIFE -> Immediately invokable function expression  
   
3. Foreach Loop:  
   
4. Global Scope is a default scope
5. Function scope
6. Block Scope
7. Use strict:  
   if we enable this operation, then if any variable is not defined and directly accessed, then by using use strict mode it blocks automatically defining the variable in global scope
8. This keyword:  
     
   “this” is an object that a function is property of  
     
   
9. This keyword inside the methods of the object  
   
11. Primitives:  
    Numbers, boolean, string, undefined, null
12. Objects:
13. Objects, function, arrays
14. Every object that we create is an instance of an Object constructor has an inbuilt methods like as below  
    
15. Inheritance /prototype
16. Every javascript object has “Prototype Property”Closures:
17. call, bind and apply methods: Are instances of function prototypes:  
    we use call, bind and apply for setting the this keyword independent of how the function is called  
    call() -> sets the this keyword and is executed immediately  
    bind-> creates a copy of the function and sets the this keyword, and is executed later  
    apply()-> similar to call() except that appy accepts array of arguments instead of comma seperated values and executed immediately  
    
18. 
19.   
    
20. 
21. 
22. 
23. 
24. 
25. ES6 : let and const  
    let is block scope, global scope, and block scope, variable cannot be accessed before it is declared  
    var is global scope and function scope, variable declared using var can be hoisted, meaning variable can be accessed even before it is declared  
    const is same as let, but the only difference is once a value is assigned to a variable using const, we cannot change it  
      
      
      
     

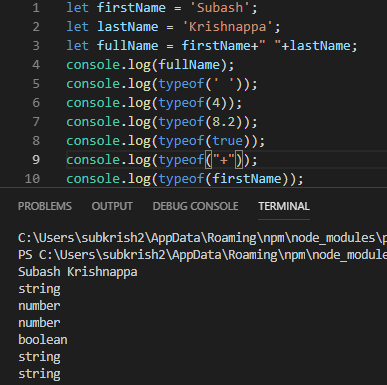
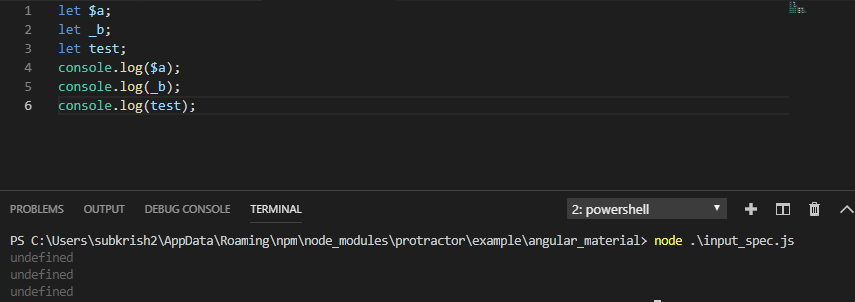
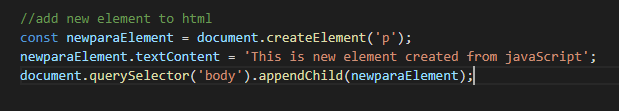
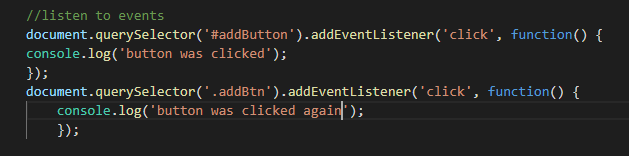
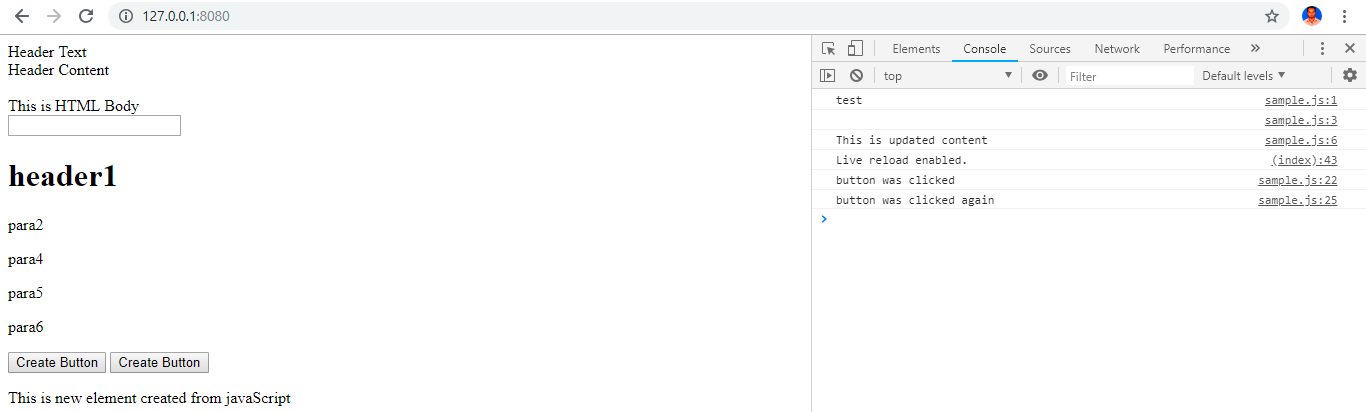
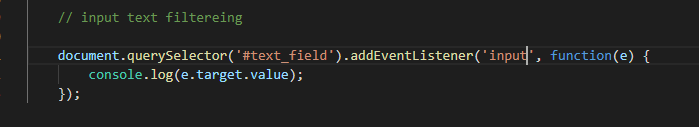
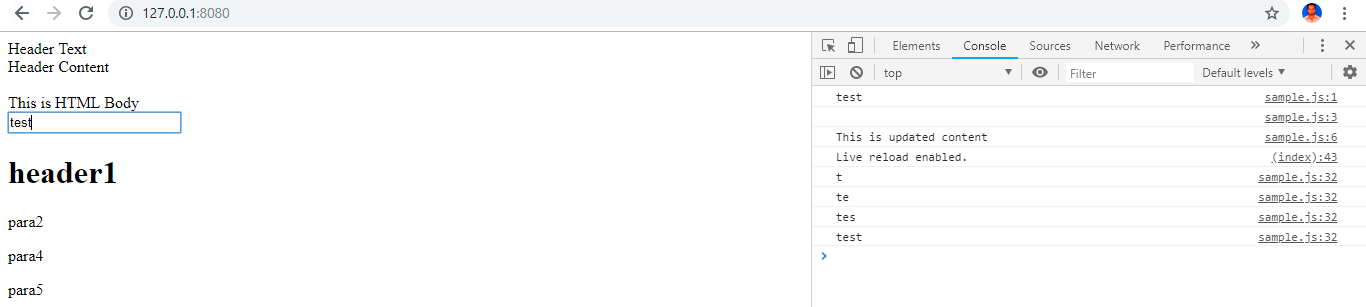
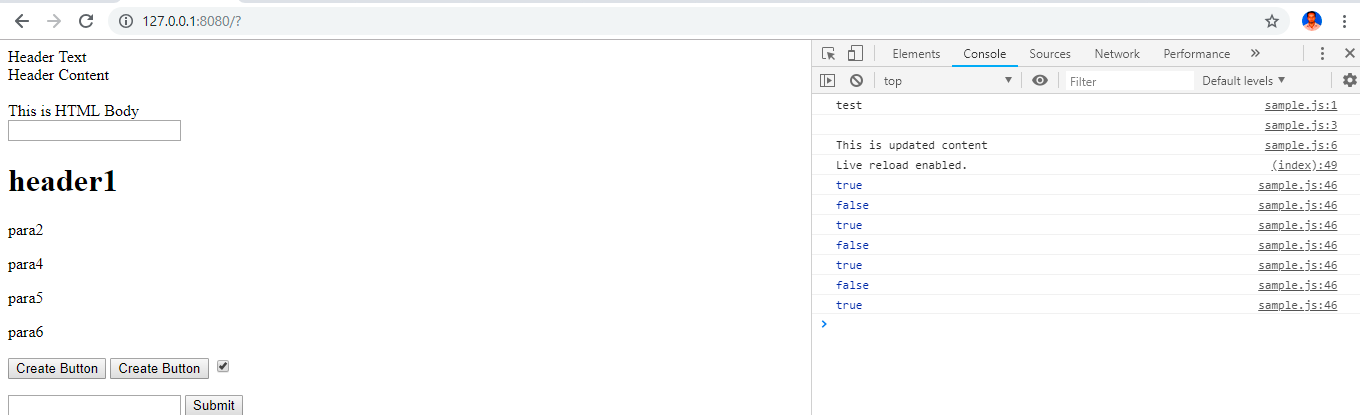
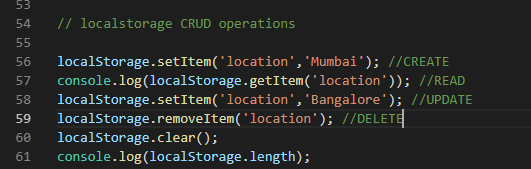
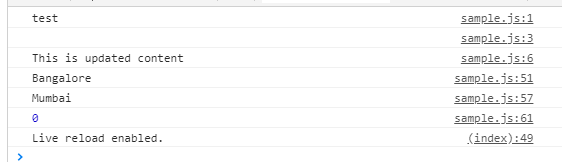
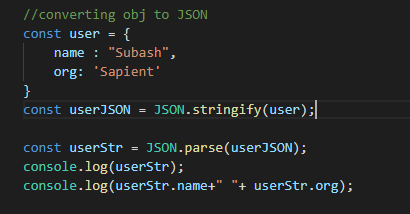
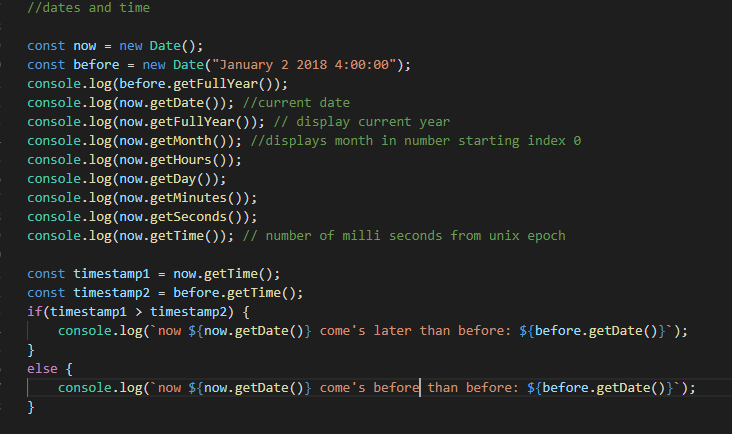
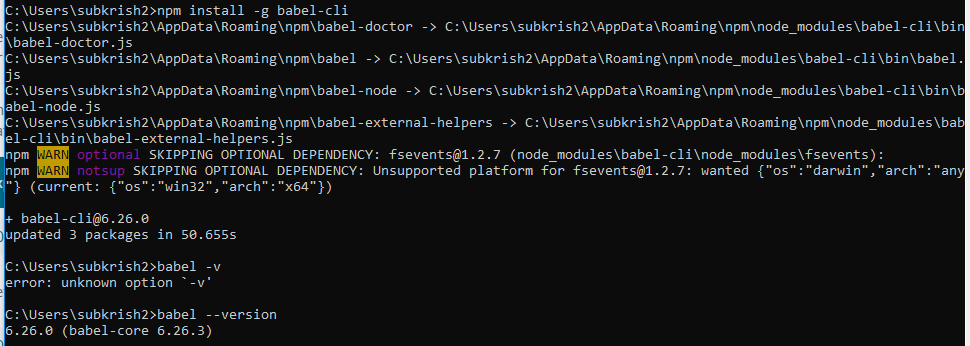
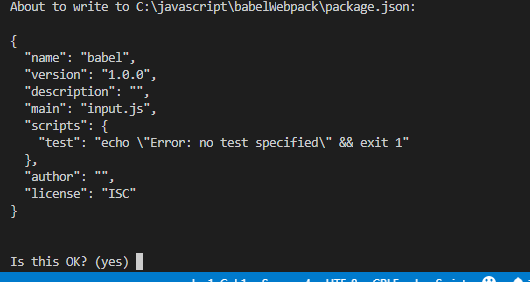
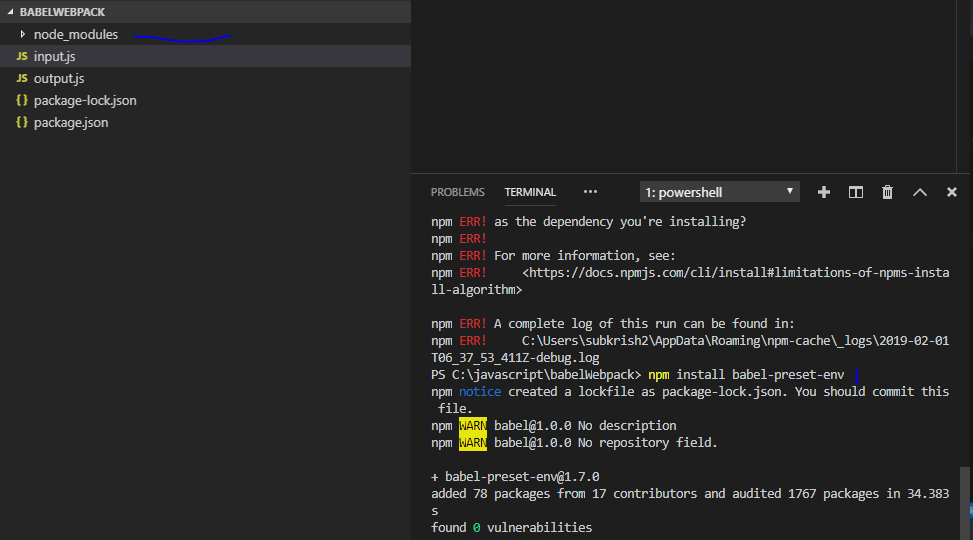
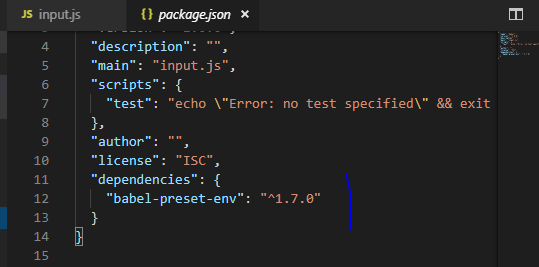
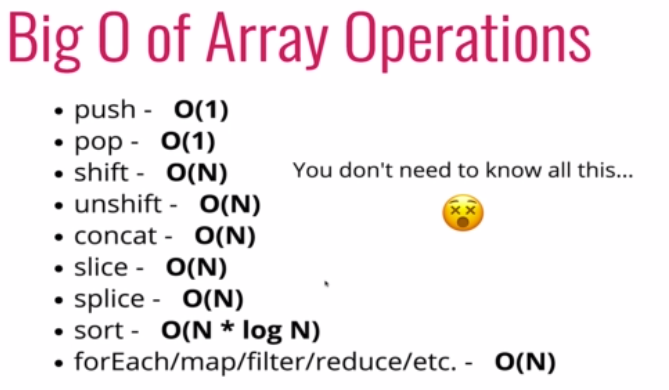
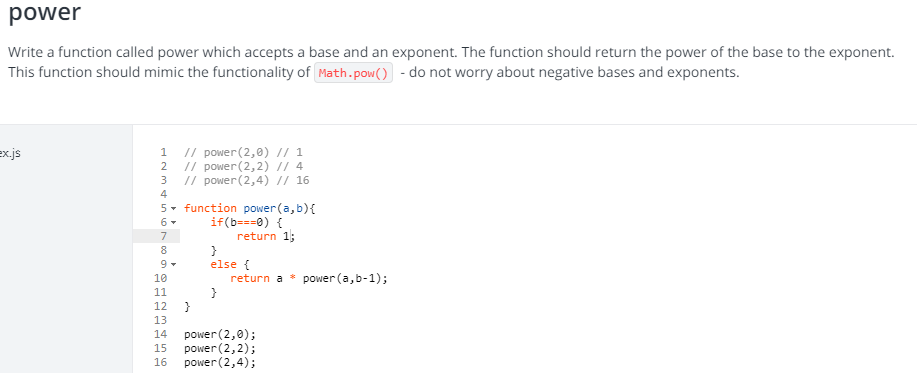
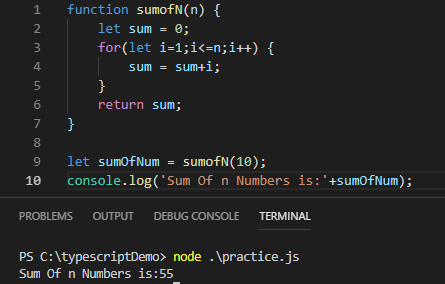
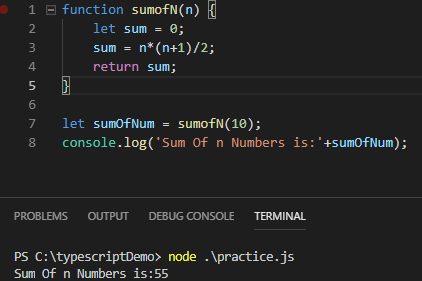
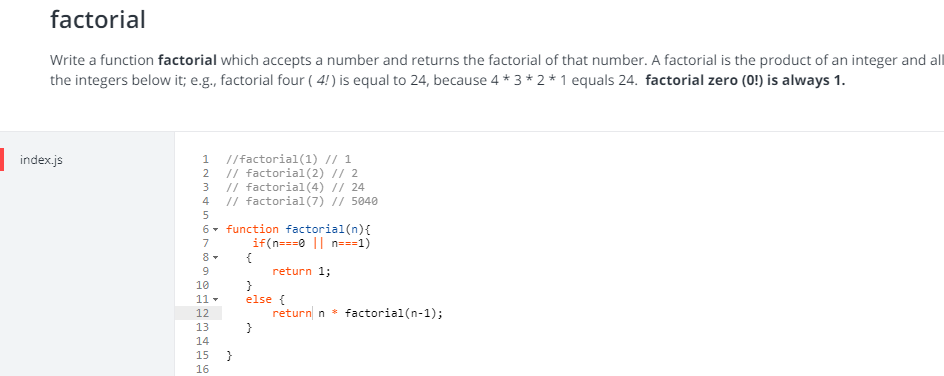
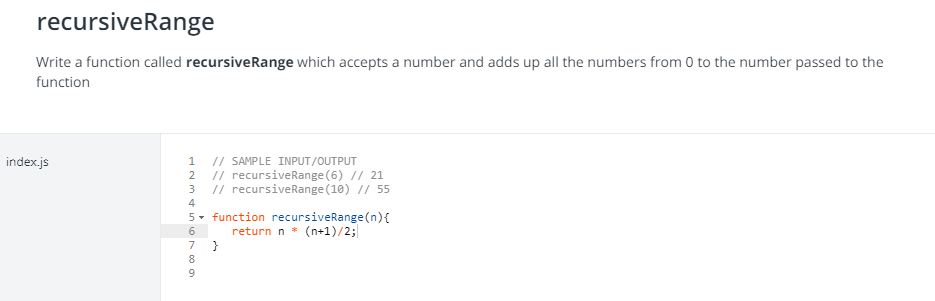
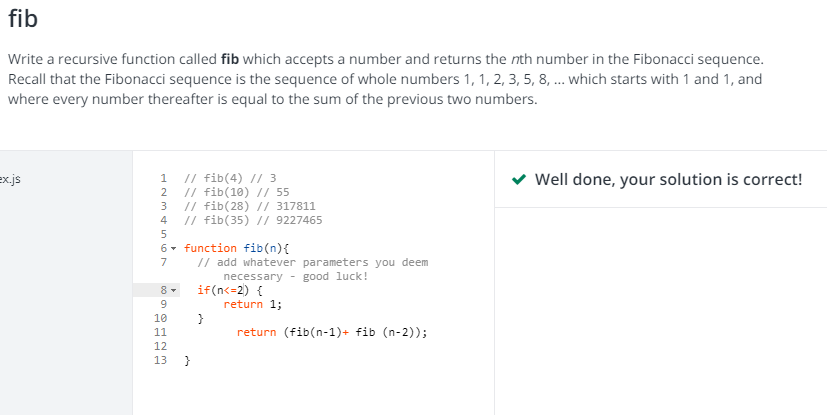
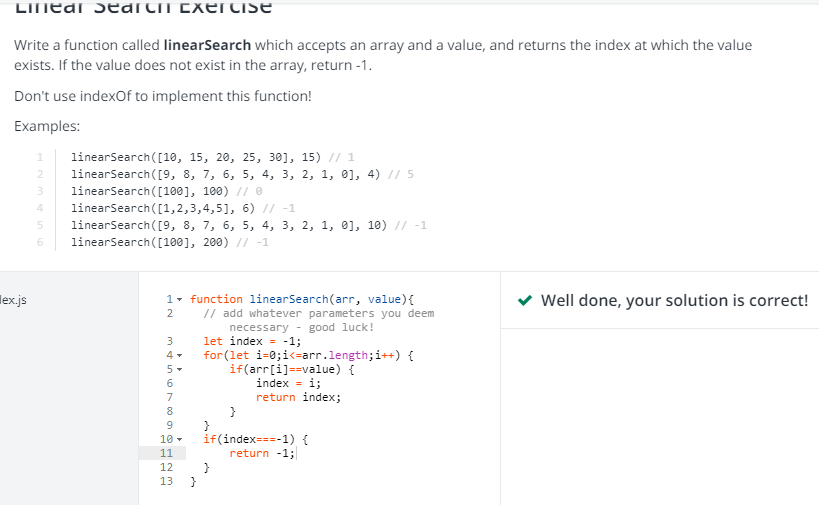
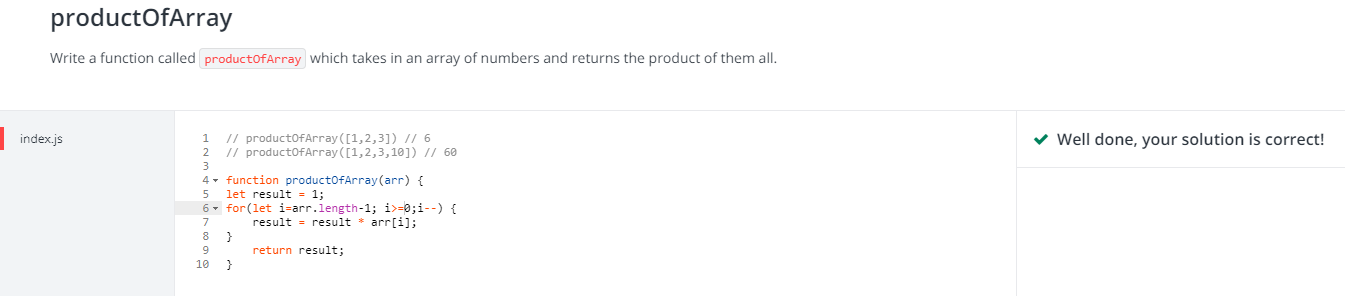


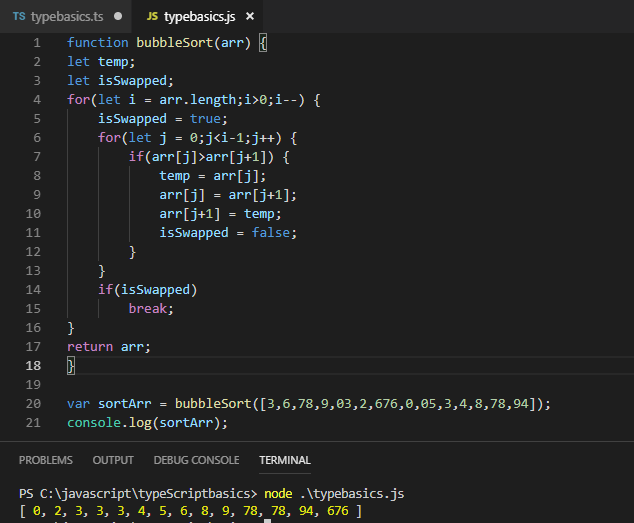
1. ES6 -> Strings  
     
   
2. Destructing:
3.   
   
4. Array Search
5. Function constructors: we can create objects using function constructors
6. 
7. == -> Equality, === -> Strict Equality operator
8. Object.create
9. Babel and webpack: babel -> ensures app work in wider range of browsers, webpack -. Ensures can use new features, Babel is a javascript compiler(transforms from higher level of abstraction to low level language)  
   Transpiler -> it is a compiler that transpiles code from one programming language to other programming language  
   babel is both a compiler and transpiler
10. Live reloading to launch a website as a URL:  
    
11. To access another file  
    require(‘./newFile.js’);
12. Babel -> solves cross browser compability issues  
    babel installation:  
    
13. verify installed babel version:  
    

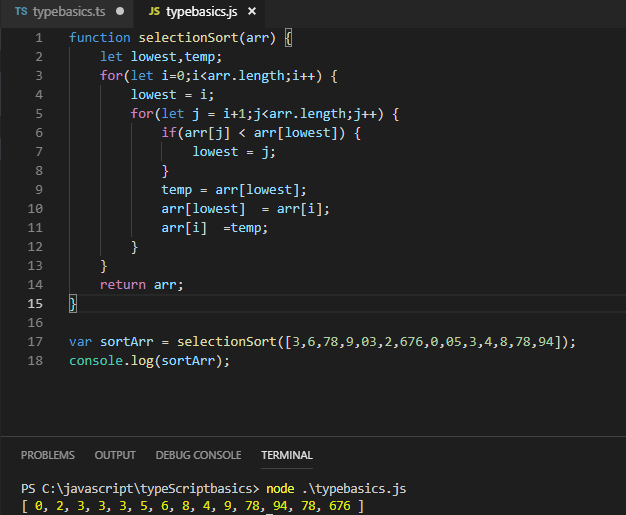
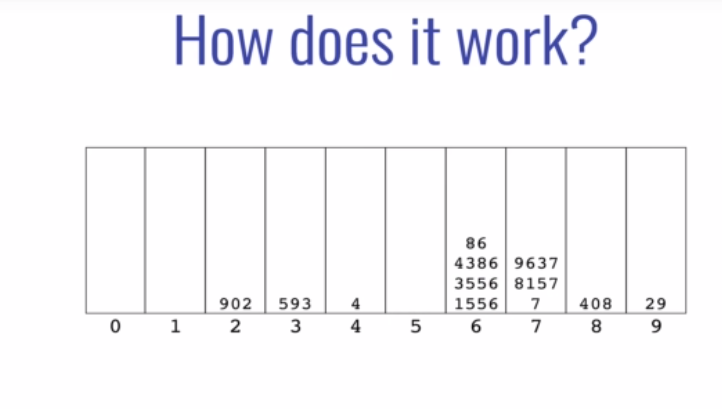
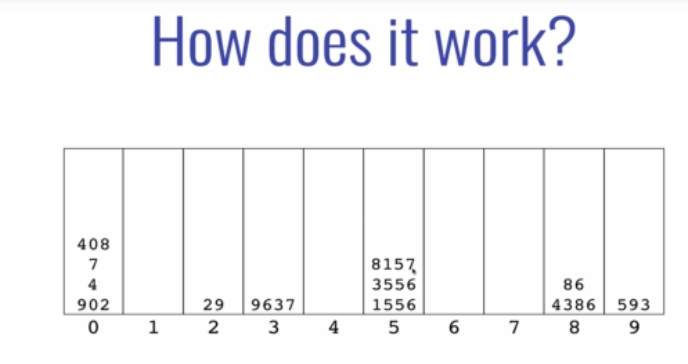
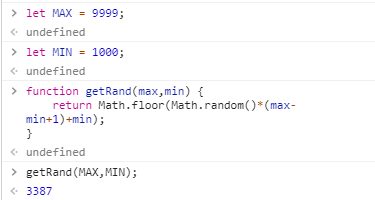
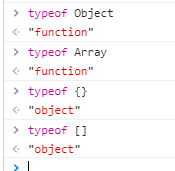


on executing this command, a list of all node modules are installed

Events: are notifications that are sent to notify that something has occurred

1. Event listener:
2. Node js -. Is a javascript runtime built on chrome’s v8 javascript engine
3. valid variable names:  
   
4. 
5.   
     
   
6.   
     
   
7.   
     
   
8. LocalStorage:  
     
   
9. 
10. Date’s javascript  
    
11. BABEL & WEBPACK:  
    babel installation:  
    
12. npm init creates package.json file
13. 
14.   
    On running npm install all dependencies mentioned under package.json file, will get installed automatically into the workspace
15. 
16. Power of a number  
    
17. Sum of all numbers from 1 to n:  
      
    Alternate solution:  
    
18. Factorial  
    
19. recursive Range  
    
20. Fibonacci Series  
    
21. Linear Search  
    
22. 
23. Binary Search -> Works only in sorted arrays
24. Bubble Sort:

Largest value bubbles to the top in every iteration, so in every iteration, number of elements to be sorted is reduced   
Big O for bubble sort is O(n2)

1. Selection Sort:  
   Similar to bubble sort but in selection sort we swap the minimum element at the beginning  
   
2. Radix Sort:  
     
     
   
3. Hash Tables:  
   Custom Hash Function:
4. Node Package Manager: semver package to verify major, minor versions  
   Browser app must be added as   
   Server package must be added as
5. 
6. Package-lock.json file ->
7. Advanced Functions:
8. ES7:   
   includes() and power operator
9. ES8:  
   padStart(10)  
   padEnd(10): add blank spaces at the end
10. Generate a Random number between the range inclusive  
    
11. Mutability and immutability:
12. 
13. 