**Assignment: 8**

6)

const count = {

    counter: 0, //must set the counter here

    add: function() {

        return ++this.counter; //should use "this" keyword

    },

    reset: function() {

        return this.counter = 0;

    }

}

console.log(count.add()); //returns 1

console.log(count.add()); //returns 2

console.log(count.reset()); //returns 0

7) A free variable is a variable used in a function that is not one of its parameters or local variables. The free variable is counter as it is declared outside the function.

8)

const make\_adder = function(inc) { //factory module

    var counter = 0;

    return function() {

        return counter += inc;

    }

};

add5 = make\_adder(5);

add5();

add5();

console.log(add5()); //returns 15

9) We can use Module pattern –immediately invoked function expression (IIFE) and put all the codes inside declare and call block like

(----codes here----)();

10)

const Employee = (function() {

    let name;

    let age;

    let salary;

    setAge = function(newAge) {

        age = newAge;

    }

    setSalary = function(newSalary) {

        salary = newSalary;

    }

    setName = function(newName) {

        name = newName;

    }

    getAge = function() {

        return age;

    }

    getSalary = function() {

        return salary;

    }

    getName = function() {

        return name;

    }

    return {

        setSalary: setSalary,

        setAge: setAge,

        setName: setName,

        increaseSalary: function(percentage) {

            return getSalary() + getSalary() \* percentage / 100;

        },

        incrementAge: function(value) {

            return getAge() + value;

        }

    }

})();

Employee.setSalary(1000);

Employee.setAge(23);

console.log(Employee.increaseSalary(5));

console.log(Employee.incrementAge(2));

11)

const Employee = (function() {

    let name;

    let age;

    let salary;

    let address;

    setAge = function(newAge) {

        age = newAge;

    }

    setSalary = function(newSalary) {

        salary = newSalary;

    }

    setName = function(newName) {

        name = newName;

    }

    getAge = function() {

        return age;

    }

    getSalary = function() {

        return salary;

    }

    getName = function() {

        return name;

    }

    return {

        setSalary: setSalary,

        setAge: setAge,

        setName: setName,

        increaseSalary: function(percentage) {

            return getSalary() + getSalary() \* percentage / 100;

        },

        incrementAge: function(value) {

            return getAge() + value;

        }

    }

})();

//Extension code

Employee.getAddress = function() {

    return address;

}

Employee.setAddress = function(newAddress) {

    address = newAddress;

}

Employee.setAddress("1000000 N 4th");

console.log(Employee.getAddress());