**Answer for question 1 in the module and closure lab:**

var rudyTimer = ( function (){

let timer = null; // stores ID of interval timer

return function delayMsg2() {

if (timer === null) {

timer = setInterval(rudy, 1000);

} else {

clearInterval(timer);

timer = null;

}

}

})();

function rudy() {

document.getElementById("output").innerHTML += " Rudy!";

}

**Solution to Closure Exercises**

1.

x = 1;

var a = 5;

var b = 10;

var c = function(a, b, c) {

var x = 10;

document.write(x); //10

document.write(a); //8

var f = function(a, b, c) {

b = a;

document.write(b); //8

b = c;

var x = 5;

}

f(a,b,c);

document.write(b); //9

}

c(8,9,10);

document.write(b); //10

document.write(x); //1

}

2. What is the difference between a method and function?

Ans: function is a block of code that performs specific task. It is created using the function keyword. On the other hand, a method is a property of an object which contains a function definition. Methods are functions which are stored as object properties.

3. What does 'this' refer to when used in a Java method?

Ans: this refers to the current object in a method.

4. What does 'this' refer to when used in a JavaScript method?

Ans: this refers to the owner object

5. What does 'this' refer to when used in a JavaScript constructor function?

Ans: this refers to the newly created object

6. Assume object x is the prototype for object y in Javascript. Object x has a method f( ) containing keyword 'this'. When f is called by x.f( ), what does 'this' refer to?

Ans: in this case this refers to x.

7. What is a free variable in JavaScript?

Ans: a variable that is referred to by a function that is not one of its parameters or local variables.

8. Create an object that has properties with name = "fred" and major="music" and a property that is a function that takes 2 numbers and returns the smallest of the two, or the square of the two if they are equal.

9. Write Javascript code for creating three Employee objects using the "new" keyword and a constructor function. Employee objects have the following fields: name, salary, position.

Ans:

function Employee(name, salary, position){

this.name = name;

this.salary = salary;

this.position = position;

}

var Employee1 = new Employee(“Weldmicheal Berhanu”, 100000, “Java Developer”);

var Employee2 = new Employee(“George Smith”, 90000, “Software Engineer”);

var Employee3 = new Employee(“Will Sander”, 20000, “Manager”);

10. Write a Javascript function that takes any number of input arguments and returns the product of the arguments.

function product (){

let product = 1;

for(let i = 0; i < arguments.length; i++){

product \*= arguments[i];

}

return product;

}

11. Write an arrow function that returns the maximum of its three input arguments

var max = (a, b, c) => a > b ? (a > c ? a: c) : (b > c ? b: c)