**Memo**

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Assignment 2  
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Question 3:

**Closure:** A closure is a kind of feature where an inner function can access to the outer function in its scope chain even if the function is returned and finished. It is the combination of a function and the lexical environment within which that function was declared.

A closure consists of three types of main chain

1. It can access its scope of code.
2. It can access to outer variable of a function.
3. And at last it is like a global variable can access any function

A simple closure where a function has a variable and we are using it in another function. An inner function is called in at outer function and stored its value. Var total is a variable which is declared in first function and it’s called in out of its own function and it is working how it is expected to work.

**function** calculateTax(amount){  
 **var** total; // Declaring a variable  
 //if statement to calculate tax  
 **if**(amount<=5.00){  
 total =amount +amount\*(20/100);  
 }  
 **if**(amount>= 5.01 && amount<=100)  
 {  
 total =amount +amount\*(15/100);  
 }  
 **if**(isNaN(amount)){  
 **return** 'Invalid';  
 }  
 **else** {  
 total = amount +amount\*(5/100);  
 }  
 **return** total.toFixed(2);  
}  
  
// To create formatMoney function  
**function** formatMoney(amount,flag){  
 **let** tempAmount = parseFloat(amount);  
 **if**(flag){  
 **return** "$"+tempAmount.toLocaleString();  
 }**else**{  
 **return** tempAmount;  
 }  
}

Question 4:

**Function Declaration:** A functional declaration is declaring a function variable without using assigning variable. We can use this variable only specific function block not outside of this function and it is considered siblings of variable. As like normal variable declaration we don’t need to write “var” to declare a variable but it must start with “function”. It is only created to operate for that specific function.

**function** functionDeclaration() {  
 **return** 7;  
}

**Function Expression:** A function expression is declaring a variable of a large syntax of code by assigning assignment variable. This may contain in a function or anonymous. We need to write “var” to declare a variable in function expression and it remains in a parenthesis sign. We can call this variable to another function of this same block of code.

**function** calculateTax(amount){  
 // Declaring a variable

**var** total; (It is function expression)  
 //if statement to calculate tax  
 **if**(amount<=5.00){  
 total =amount +amount\*(20/100);  
 }