1. function sigma(num){

var sum = 0

for(var i = 0; i <= num; i++){

sum += + i;

}

console.log(sum);

return sum;

}

sigma(5);

sigma(3);

2.function factorial(num){

var sum = 1

for(var i = 1; i <=num; i++){

sum = sum\*i;

}

console.log(sum)

return sum;

}

factorial(3);

factorial(5);

3.function fib(num){

var a = 1

var b = 0

var temp;

while (num > 0){

temp = a;

a = a + b;

b = temp;

num--;

}

return b;

}

console.log(fib(10));

4. function SecondLast(arr){

if (arr.length<2){

return "null";

} else{

return arr[arr.length-2];

}

}

console.log(SecondLast([42, true, 4, "Liam", 7]));

5.function NthtoLast(arr, n){

if(arr.length < n){

return "null";

}

else{

return arr[arr.length-n];

}

}

console.log(NthtoLast([5,2,3,6,4,9,7],3));

6.function secondlargest(arr){

for(var i = 0; i < arr.length-1; i++){

if(arr[i] < arr.length){

return 'null'

}

else{

return arr[arr.length-1];

}

}

}

console.log(secondlargest([42,1,4,3.14,7]));

7. function doubleTrouble(arr){

var double=[];

for(var i = 0; i <= arr.length-1; i++){

double.push(arr[i]);

double.push(arr[i]);

}

return double;

}

console.log(doubleTrouble([4, "Ulysses", 42, false]));

part 2.

fibonacci recursion.

function fib(i){

if(i == 0){

return 0;

}

if(i == 1){

return 1;

}

else{

return fib(i-1) + fib(i-2);

}

}

console.log(fib(10));