**MADT 6135\_S2**

**Lab Test 1 Solution**

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Course: 2021W\_MADT6135\_S2

Github Link: [Lab Test 1 Solution](https://github.com/anmolsingh1597/MADT6135_S2_Lab_Test_1.git)

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| LabTest1\_Solution.js  (Hypervisor) | //Name: Anmol Preet Singh Chhabra  //Student id: C0777245  //Course: MADT\_6135 S2  //Date Submitted: 16 April 2021  // 'use strict'  var Forest = require('./Forest');  class LabTest1\_Solution {  constructor() {  Forest.lionsArray[0] = "Lions Winner: "  Forest.tigersArray[0] = "Tiger Winner: "  for(var i = 1; i < 21; i++){  Forest.startGame();  Forest.runCompetition();  Forest.declareWinner(i);  }  }  }      let comp = new LabTest1\_Solution(); |
| Feline.js | class Feline {  // var strength;    constructor() {  this.strength = Math.floor(Math.random() \* 100);  }    getStrength(){  return this.strength;  }  }  module.exports = Feline; |
| Forest.js | var Tiger = require('./Tiger');  var Lion = require('./Lion');  class Forest{    static lions = new Array();    static tigers = new Array();  static NumberOfLIONWinners = 0;  static NumberOfTigerWinners = 0;  static lionsArray = new Array();  static tigersArray = new Array();    static totalLionWinners = 0;  static totalTigerWinners = 0;  static totalLionWinnerArray = new Array();  static totalTigerWinnerArray = new Array();  static startGame(){    for(var i = 0; i<20; i++){  Forest.lions[i] = new Lion();  Forest.tigers[i] = new Tiger();  }  }  static runCompetition(){  Forest.NumberOfLIONWinners = 0;  Forest.NumberOfTigerWinners = 0;  for(var i = 0; i<20; i++){  if((Forest.lions[i].getStrength() > (Forest.tigers[i].getStrength()))){  Forest.NumberOfLIONWinners++;  }else{  Forest.NumberOfTigerWinners++;  }  }  if(Forest.NumberOfLIONWinners > Forest.NumberOfTigerWinners ){  var a = Forest.NumberOfLIONWinners;  var b = Forest.NumberOfTigerWinners;  Forest.NumberOfLIONWinners = b;  Forest.NumberOfTigerWinners = a  }  if(Forest.NumberOfLIONWinners == Forest.NumberOfTigerWinners){  Forest.NumberOfLIONWinners -= 2;  Forest.NumberOfTigerWinners +=2;  }  }  static declareWinner(i){  Forest.lionsArray[i] = Forest.NumberOfLIONWinners;  Forest.tigersArray[i] = Forest.NumberOfTigerWinners;  console.log("Lions: "+Forest.NumberOfLIONWinners);  console.log("Tigers: " + Forest.NumberOfTigerWinners);  Forest.totalLionWinners += Forest.NumberOfLIONWinners;  Forest.totalTigerWinners += Forest.NumberOfTigerWinners  if(i == 20){  Forest.totalTigerWinnerArray[0] = "Total Tiger Winners: ";  Forest.totalTigerWinnerArray[1] = Forest.totalTigerWinners;  Forest.totalLionWinnerArray[0] = "Total Lion Winners: ";  Forest.totalLionWinnerArray[1] = Forest.totalLionWinners;            var rows = [Forest.tigersArray,Forest.lionsArray, Forest.totalTigerWinnerArray, Forest.totalLionWinnerArray];  let csvContent = "";    rows.forEach(function(rowArray) {  let row = rowArray.join(",");  csvContent += row + "\n";  });  // var encodedUri = encodeURI(csvContent);              var fs = require('fs');              fs.writeFile("solution.csv", csvContent, function(err) {                  if(err) {                      return console.log(err);                  }  console.log("For output, please open 'solution.csv'")         });  }  }  }  module.exports = Forest; |
| Lion.js | var Feline = require('./Feline');  class Lion extends Feline {  constructor() {  super()  this.setStrength()  }  setStrength(){  this.strength = Math.floor(Math.random() \* 100);  }  }  module.exports = Lion; |
| Tiger.js | var Feline = require('./Feline');  class Tiger extends Feline {  constructor() {  super()  this.setStrength()  }  setStrength(){  this.strength = Math.floor(Math.random() \* 100);  }  }  module.exports = Tiger; |
| solution.csv | Graphical user interface, text, table  Description automatically generated |