**Exercises: Objects and Math**

At our space base, it is a historic day! Five non-human animals are ready to run a space mission without our assistance! You will use the same five animal objects throughout these exercises.

**Part 1: Create More Objects**

Using the two provided object literals as examples, create new object literals for the three remaining animals (**Name, Species, Mass (kg), Age (years)**).

Animal = (Brad, Chimpanzee, 11, 6)

Animal = (Leroy, Beagle, 14, 5)

Animal = (Almina, Tardigrade, 0.0000000001, 1)

**Add a New Property to the Objects**

For each animal, add a property called astronautID. Each astronautID should be assigned a number between 1 and 10 (including 10). However, no crew members should have the same ID.

**Add a New Method to the Objects**

Add a move method to each animal object. The move method will select a random number of steps from 0 to 10 for the animal to take. The number can be 0 as well as 10.

**Store the Objects**

Create a crew array to store all of the animal objects.

**Part 2: Crew Reports**

Upper management at the space base wants us to report all of the relevant information about the animal astronauts.

Define a crewReports function to accomplish this. When passed one of the animal objects, the function returns a template literal with the following string:

'\_\_\_\_ is a \_\_\_\_. They are \_\_\_\_ years old and \_\_\_\_ kilograms. Their ID is \_\_\_\_.'

Fill in the blanks with the name, species, age, mass, and ID for the selected animal.

**Part 3: Crew Fitness**

Before these animal astronauts can get ready for launch, they need to take a physical fitness test. Define a fitnessTest function that takes an array as a parameter.

Within the function, race the five animals together by using the move method. An animal is done with the race when they reach 20 steps or greater. Create a new array to store how many turns it takes each animal to complete the race. Store the data as a string: '\_\_\_\_ took \_\_\_\_ turns to take 20 steps.' Fill in the blanks with the animal’s name and race result.

Return the array from the function, then print the results to the console (one animal per line).

***HINT:*** There are a lot of different ways to approach this problem. One way that works well is to see how many iterations of the move method it will take for each animal to reach 20 steps.

**Before You Submit:**

1. Make sure your function names match those given in the instructions.
2. Verify that your functions work as expected.
3. Check your strings for spelling and punctuation errors.

// Code your crewReports function here:

function crewReports(animalObject){

for (i=0; i<5; i++){

if (crewArr[i][4] === animalObject) {

console.log(`${crewArr[i][0]} is a ${crewArr[i][1]}. They are ${crewArr[i][3]} years old and ${crewArr[i][2]} kilograms. Their ID is ${crewArr[i][4]}.`);

break;

}

}

}

// Code your fitnessTest function here:

function fitnessTest(arr){

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

moveSpaces = 0;

for (moveSpaces=0; moveSpaces<20; moveSpaces++){

moveSpaces = moveSpaces + crewArr[i][5];

numTurns = numTurns + 1;

}

saveString = `${crewArr[i][0]} took ${numTurns} turns to take 20 steps.`

finalArray.push(saveString);

}

}

// Code your objects and crew array here:

let superChimpOne = {

name: "Chad",

species: "Chimpanzee",

mass: 9,

age: 6,

astronautID: 1,

move: Math.round(Math.random()\*10)

};

let salamander = {

name: "Lacey",

species: "Axolotl Salamander",

mass: 0.1,

age: 5,

astronautID: 2,

move: Math.round(Math.random()\*10)

};

let chimpTwo = {

name: "Brad",

species: "Chimpanzee",

mass: 11,

age: 6,

astronautID: 3,

move: Math.round(Math.random()\*10)

};

let beagleDog = {

name: "Leroy",

species: "Beagle",

mass: 14,

age: 5,

astronautID: 4,

move: Math.round(Math.random()\*10)

};

let otherAnimal = {

name: "Almina",

species: "Tardigrade",

mass: 0.0000000001,

age: 1,

astronautID: 5,

move: Math.round(Math.random()\*10)

};

let animalsArray = ['superChimpOne', 'salamander', 'chimpTwo', 'beagleDog', 'otherAnimal'];

crewArr = [];

tempArr = [];

tempArr0 = [];

tempArr1 = [];

tempArr2 = [];

tempArr3 = [];

tempArr4 = [];

finalArray = [];

numTurns = 0;

for (item in superChimpOne) {

tempArr0.push(superChimpOne[item]);

} //end of for item loop

for (item in salamander) {

tempArr1.push(salamander[item]);

} //end of for item loop

for (item in chimpTwo) {

tempArr2.push(chimpTwo[item]);

} //end of for item loop

for (item in beagleDog) {

tempArr3.push(beagleDog[item]);

} //end of for item loop

for (item in otherAnimal) {

tempArr4.push(otherAnimal[item]);

} //end of for item loop

crewArr.push(tempArr0);

crewArr.push(tempArr1);

crewArr.push(tempArr2);

crewArr.push(tempArr3);

crewArr.push(tempArr4);

crewReports(2);

fitnessTest(crewArr);

console.log(finalArray);