```javascript
/* 1.LECTURE: Values and Variables */

// 1. Declare variables called 'country', 'continent' and 'population' and assign their values according
to your own country (population in millions)
 let country = "India"
 let continent = "Asia"
 let population = "1500 millions"

// 2. Log their values to the console
console.log(country);
console.log(continent);
console.log(population);
// ----------------------------------------------------------------------------

// 2.LECTURE: let, const and var
// 1. Set the value of 'language' to the language spoken where you live (some countries have multiple
languages, but just choose one)
  let language = "Telugu"
  console.log(language);

// 2. Think about which variables should be const variables (which values will never change, and
which might change?). Then, change these variables to const.
const country_name = "India"
console.log(country_name);
// 3. Try to change one of the changed variables now, and observe what happens
const country_name = "America"// here Error will occur like identifier has already been declared

// operators
/*1. If your country split in half, and each half would contain half the population, then how many
people would live in each half?


2. Increase the population of your country by 1 and log the result to the console

3. Finland has a population of 6 million. Does your country have more people than Finland?

4. The average population of a country is 33 million people. Does your country have less people than
the average country?

5. Based on the variables you created, create a new variable 'description' which contains a string with
this format: 'Portugal is in Europe, and its 11 million people speak portuguese' */

// 1. If your country split in half, and each half would contain half the population, then how many
people would live in each half?
// let pre_population = 100000;
// let half_population = pre_population/2;
// console.log("each half would contain "+ half_population + " people");
// // Increase the population of your country by 1 and log the result to the console
// pre_population+=1;
// console.log(pre_population);

// 3. Finland has a population of 6 million. Does your country have more people than Finland?
// let fin_population = 6000000;
// let mycon_pop = 799990;
// if (mycon_pop>fin_population){
//    console.log("my country population is more than finland population");
// }
```

```
// else if (mycon_pop<fin_population){
//    console.log("finland population is more than my country population");
// }
// else{
//    console.log("both coutry population is equal");
// }

// 4. The average population of a country is 33 million people. Does your country have less people
than the average country?

// 5. Based on the variables you created, create a new variable 'description' which contains a string
with this format: 'Portugal is in Europe, and its 11 million people speak portuguese' */
// let description=("coutry is in " + continent + " and its "+ population+ " people" + " " + "speack "+
""+language +" language" );
// console.log(description);

// LECTURE: Taking Decisions: if / else Statements

// If your country's population is greater that 33 million, log a string like this to the console: 'Portugal's
population is above average'. Otherwise, log a string like 'Portugal's population is 22 million below
average' (the 22 is the average of 33 minus the country's population)

// let countryy = "germany";
// let avg_pop  = 33000000;
// let my_pop  =  10000000
// if(my_pop>avg_pop){
//   console.log(countryy +""+ " population is above average");
// }
// else {
//    console.log(countryy+""+ " population is 22 million below average");
// }


// 2. After checking the result, change the population temporarily to 13 and then to 130. See the
different results, and set the population back to original
// Step 3: Temporarily change the population to 13 million and log the result
// my_popp = 13000000;
// if (my_pop > avg_pop) {
//    console.log(country + population is above average.);
// } else {
//    let difference = (averagePopulation - populationMyCountry) / 1000000;
//    console.log(country population is ${difference million below average.);
// }

// // Step 4: Temporarily change the population to 130 million and log the result
// populationMyCountry = 130000000;
// if (populationMyCountry > averagePopulation) {
//    console.log(`${country}'s population is above average.`);
// } else {
//    let difference = (averagePopulation - populationMyCountry) / 1000000;
//    console.log(`${country}'s population is ${difference} million below average.`);
// }

// // Step 5: Set the population back to the original
// populationMyCountry = 11000000;
// if (populationMyCountry > averagePopulation) {
//    console.log(`${country}'s population is above average.`);
```

```
// } else {
//    let difference = (averagePopulation - populationMyCountry) / 1000000;
//    console.log(`${country}'s population is ${difference} million below average.`);
// }


/*LECTURE: Type Conversion and Coercion */

// Predict the result of these 5 operations without executing them:

// '9' - '5'; '19' - '13' + '17';


// '19' - '13' + 17;

// '123' < 57; 5 + 6 + '4' + 9 - 4 - 2;

// 2. Execute the operations to check if you were right

// LECTURE: Equality Operators: == vs. ===

// 1. Declare a variable 'numNeighbours' based on a prompt input like this: prompt('How many
neighbour countries does your country have?');
let numNeighbours = "1";

// 2. If there is only 1 neighbour, log to the console 'Only 1 border!' (use loose equality == for now)
if(numNeighbours=="1"){
console.log("only 1 border");
}
// 3. Use an else-if block to log 'More than 1 border' in case 'numNeighbours' is greater than 1
else if(numNeighbours>1){
console.log("more than 1 border");
}
// 4. Use an else block to log 'No borders' (this block will be executed when 'numNeighbours' is 0 or
any other value)
else {
    console.log("no borders");
}
// 5. Test the code with different values of 'numNeighbours', including 1 and 0.

// 6. Change == to ===, and test the code again, with the same values of 'numNeighbours'. Notice
what happens when there is exactly 1 border! Why is this happening?
if (numNeighbours === "1") {
    console.log('Only 1 border!');
} else if (numNeighbours > 1) {
    console.log('More than 1 border');
} else {
    console.log('No borders');
}

// 7. Finally, convert 'numNeighbours' to a number, and watch what happens now when you input 1
numNeighbours = Number(1);

if (numNeighbours === 1) {
    console.log('Only 1 border!');
} else if (numNeighbours > 1) {
    console.log('More than 1 border');
```

```javascript
} else {
    console.log('No borders');
}


// 8. Reflect on why we should use the === operator and type conversion in this situation


// logical operators[&&,||,!]

// 2. Let's say Sarah is looking for a new country to live in. She wants to live in a country that speaks
english, has less than 50 million people and is not an island.


// 3. Write an if statement to help Sarah figure out if your country is right for her. You will need to
write a condition that accounts for all of Sarah's criteria. Take your time with this, and check part of
the solution if necessary.

// 4. If yours is the right country, log a string like this: 'You should live in Portugal :)'. If not, log
'Portugal does not meet your criteria :('

// 5. Probably your country does not meet all the criteria. So go back and temporarily change some
variables in order to make the condition true (unless you live in Canada :D)

let countryName = "cuba";
let English = true;
let population = 10000000;
let isIsland = false;
if (English && population < 50000000 && !isIsland) {
    console.log(`You should live in ${countryName} :)`);
} else {
    console.log(`${countryName} does not meet your criteria :(`);
}
/* LECTURE: The switch Statement

Use a switch statement to log the following string for the given 'language':

chinese or mandarin: 'MOST number of native speakers!'

spanish: '2nd place in number of native speakers'

 english: '3rd place'

hindi: 'Number 4'

arabic: '5th most spoken language'

for all other simply log 'Great language too :D' */

let language = "hindi"; // You can change this value to test different cases

switch (language) {
    case "chinese":
    case "mandarin":
        console.log("MOST number of native speakers!");
        break;
```

```javascript
    case "spanish":
      console.log("2nd place in number of native speakers");
      break;
    case "english":
      console.log("3rd place");
      break;
    case "hindi":
      console.log("Number 4");
      break;
    case "arabic":
      console.log("5th most spoken language");
      break;
    default:
      console.log("Great language too :D");
      break;
}
```

// LECTURE: The Conditional (Ternary) Operator

// 1. If your country's population is greater than 33 million, use the ternary operator to log a string like this to the console: 'Portugal's population is above average'. Otherwise, simply log 'Portugal's population is below average'. Notice how only one word changes between these two sentences!

// 2. After checking the result, change the population temporarily to 13 and then to 130. See the different results, and set the population back to original

```javascript
 my_population = 15;

let message = my_population > 33 ? "Portugal's population is above average" : "Portugal's population is below average";
console.log(message);

// Change population to 13 million
my_population= 13;

message = my_population > 33 ? "Portugal's population is above average" : "Portugal's population is below average";

console.log(message);

// Change population to 130 million
my_population = 130;

message = my_population > 33 ? "Portugal's population is above average" : "Portugal's population is below average";

console.log(message); // Logs "Portugal's population is above average"

// Set population back to original
my_population = 11;

message = my_population > 33 ? "Portugal's population is above average" : "Portugal's population is below average";

console.log(message); // Logs "Portugal's population is below average"
```

LECTURE: Functions

```
// 1. Write a function called 'describeCountry' which takes three parameters: 'country', 'population'
and 'capitalCity'. Based on this input, the function returns a string with this format: 'Finland has 6
million people and its capital city is Helsinki'
function describeCountry(country, population, capitalCity) {
    return `${country} has ${population} million people and its capital city is ${capitalCity}`;
}


// 2. Call this function 3 times, with input data for 3 different countries. Store the returned values in 3
different variables, and log them to the console
let country1 = describeCountry("denmark", 10, "katar");
let country2 = describeCountry("India", 4, "Newdelhi");
let country3 = describeCountry("Japan", 2, "Tokyo");
console.log(country1);
console.log(country2);
console.log(country3);

/*LECTURE: Function Declarations vs. Expressions

1. The world population is 7900 million people. Create a function declaration called
'percentageOfWorld1' which receives a 'population' value, and returns the percentage of the world
population that the given population represents. For example, China has 1441 million people, so it's
about 18.2% of the world population

2. To calculate the percentage, divide the given 'population' value by 7900 and then multiply by 100

3. Call 'percentageOfWorld1' for 3 populations of countries of your choice, store the results into
variables, and log them to the console

4. Create a function expression which does the exact same thing, called 'percentageOfWorld2', and
also call it with 3 country populations (can be the same populations) LECTURE: Arrow Functions 1.
Recreate the last assignment, but this time create an arrow function called 'percentageOfWorld3'  */
function percentageOfWorld1(World_population) {
    return (World_population / 7900) * 100;
}

// Call percentageOfWorld1 for 3 populations and log the results
let china__Percentage = percentageOfWorld1(1441);
let india__Percentage = percentageOfWorld1(1380);
let usa__Percentage = percentageOfWorld1(331);

console.log(china__Percentage);
console.log(india__Percentage);
console.log(usa__Percentage);

//Create a function expression which does the exact same thing, called 'percentageOfWorld2'
function percentageOfWorld1(World_population) {
    return (World_population / 7900) * 100;
}
// Call percentageOfWorld1 for 3 populations and log the results
let chinaPercentage2 = percentageOfWorld1(1441);
let indiaPercentage2 = percentageOfWorld1(1380);
let SouthAfricaPercentage2 = percentageOfWorld1(331);

console.log(chinaPercentage2);
```

```
    console.log(indiaPercentage2);
    console.log(SouthAfricaPercentage2);

    let percentageOfWorld3 = World_population => (World_population / 7900) * 100;

// Call percentageOfWorld3 for 3 populations and log the results
let chinaPercentage3 = percentageOfWorld3(1441);
let indiaPercentage3 = percentageOfWorld3(1380);
let southAfricaPercentage3 = percentageOfWorld3(331);

console.log(chinaPercentage3);
console.log(indiaPercentage3);
console.log(southAfricaPercentage3);
```

// LECTURE: Functions Calling Other Functions

// 1. Create a function called 'describePopulation'. Use the function type you like the most. This function takes in two arguments: 'country' and 'population', and returns a string like this: 'China has 1441 million people, which is about 18.2% of the world.'

// 2. To calculate the percentage, 'describePopulation' call the 'percentageOfWorld1' you created earlier 3. Call 'describePopulation' with data for 3 countries of your choice

/*LECTURE: Introduction to Arrays

1. Create an array containing 4 population values of 4 countries of your choice. You may use the values you have been using previously. Store this array into a variable called 'populations'

 2. Log to the console whether the array has 4 elements or not (true or false)

3. Create an array called 'percentages' containing the percentages of the world population for these 4 population values. Use the function 'percentageOfWorld1' that you created earlier to compute the 4 percentage values */

```
let populations = [1441, 1380, 331, 82];
console.log(populations.length === 4);
let percentages = populations.map(population => percentageOfWorld1(population));
console.log(percentages);
```

/*LECTURE: Basic Array Operations (Methods)

1. Create an array containing all the neighbouring countries of a country of your choice. Choose a country which has at least 2 or 3 neighbours. Store the array into a variable called 'neighbours'

 2. At some point, a new country called 'Utopia' is created in the neighbourhood of your selected country. So add it to the end of the 'neighbours' array

3. Unfortunately, after some time, the new country is dissolved. So remove it from the end of the array

4. If the 'neighbours' array does not include the country 'Germany', log to the console: 'Probably not a central European country :D'

5. Change the name of one of your neighbouring countries. To do that, find the index of the country in the 'neighbours' array, and then use that index to change the array at that index position. For example, you can search for 'Sweden' in the array, and then replace it with 'Republic of Sweden'. */

```
let neighbours = ["France", "Spain", "Italy"];
```

```javascript
neighbours.push("Utopia");
neighbours.pop();
// Step 4: Check if 'neighbours' array includes 'Germany' and log a message if it doesn't
if (!neighbours.includes("Germany")) {
    console.log("Probably not a central European country :D");
}
// 5: Change the name of one neighbouring country
let index = neighbours.indexOf('Spain'); // Find the index of 'Spain'
if (index !== -1) {
  neighbours[index] = 'Republic of Spain'; // Replace 'Spain' with 'Republic of Spain'
}
// Log the updated 'neighbours' array
console.log(neighbours);

/*LECTURE: Dot vs. Bracket Notation

1. Using the object from the previous assignment, log a string like this to the console: 'Finland has 6
million finnish-speaking people, 3 neighbouring countries and a capital called Helsinki.'

2. Increase the country's population by two million using dot notation, and then decrease it by two
million using brackets notation.  */
let finland = {
    country: "Finland",
    population: 6,
    language: "Finnish",
    neighbours: 3,
    capital: "Helsinki"
};

console.log(`${finland.country} has ${finland.population} million ${finland.language}-speaking people,
${finland.neighbours} neighbouring countries and a capital called ${finland.capital}.`);


finland.population += 2;
finland["population"] -= 2;

console.log(finland.population);

/*LECTURE: Object Methods

1. Add a method called 'describe' to the 'myCountry' object. This method will log a string to the
console, similar to the string logged in the previous assignment, but this time using the 'this' keyword.

 2. Call the 'describe' method

 3. Add a method called 'checkIsland' to the 'myCountry' object. This method will set a new property
on the object, called 'isIsland'. 'isIsland' will be true if there are no neighbouring countries, and false if
there are. Use the ternary operator to set the property.  */

 let myCountry = {
   country: 'Fr',
   capital: 'Paris',
   language: 'French',
   population: 67, // in millions
   neighbours: ['Spain', 'Germany', 'Italy']
 };
```

```
  console.log(myCountry);


// There are elections in your country! In a small town, there are only 50 voters. Use a for loop to
simulate the 50 people voting, by logging a string like this to the console (for numbers 1 to 50): 'Voter
number 1 is currently voting'
for (let i = 1; i <= 50; i++) {
   console.log(`Voter number ${i} is currently voting`);
}
// LECTURE: The while Loop

// 1. Recreate the challenge from the lecture 'Looping Arrays, Breaking and Continuing', but this time
using a while loop (call the array 'percentages3')

//  2. Reflect on what solution you like better for this task: the for loop or the while loop?
let populations = [1441, 1380, 331, 82];
let percentages3 = [];
let i = 0;

while (i < populations.length) {
   percentages3.push(percentageOfWorld1(populations[i]));
   i++;
}

console.log(percentages3);
```