For each of the prompts, write the answer to the prompt in Python on the left side, write the answer to the prompt in Javascript on the right side. The best way to do this is to write a small program in the appropriate IDE, then copy/paste the *tested and working* code into the appropriate box.

1. Declare a Variable with a value. Reassign a variable’s value

|  |  |
| --- | --- |
| x = 8 | var x = 8 |

1. Assign the result of an expression to a variable.

|  |  |
| --- | --- |
| x = 8 \* 2 - 12 | var x = 8 \* 2 - 12 |

1. Change the data type of a variable’s value and assign it to the original value
   1. Convert to string
   2. Convert to number (integer or float)

|  |  |
| --- | --- |
| x = str(x)  x = int(x) | var x = String(x)  var x = x.toString()  var x = Number(x) |

1. Create a conditional statement that branches depending on if a variable’s value is greater than or equal to 7, greater than 4, or neither

|  |  |
| --- | --- |
| if x >= 7:      print('Your number is >= 7')  elif x > 4:      print('Your number is > 4')  else:      print('Your number is not > 4') | if (x >= 7) {      console.log('Your number is >= 7');  }  else if (x > 4) {      console.log('Your number is > 4');  }  else {      console.log('Your number is not > 4');  } |

1. Create a conditional statement that only branches if the variable’s value is ‘blue’ OR ‘green’

|  |  |
| --- | --- |
| if x.lower() == 'blue' or x.lower() == 'green':      print('I love blue and green!')  else:    print('We only accept blue or green here.') | if (x.toLowerCase() == 'blue' || x.toLowerCase() == 'green') {      console.log('I love blue and green!');  } else {      console.log('We only accept blue or green here.');  } |

1. Create a conditional statement that only branches if the variable’s value is ‘black’ AND ‘yellow’

|  |  |
| --- | --- |
| if x.lower() == 'black' and x.lower() == 'yellow':      print('Black and Yellow song.')  else:  print('That is not the Black and Yellow song.') | if (x.toLowerCase() == 'black' && x.toLowerCase() == 'yellow') {      console.log('Black and Yellow song.');  } else {      console.log('That is not the Black and Yellow song.')  } |

1. Create a function that outputs “Hello” to the console

|  |  |
| --- | --- |
| def printHello():      print('Hello')  printHello() | function printHello() {      console.log('Hello')  }  printHello(); |

1. Create a function that returns “Hello”

|  |  |
| --- | --- |
| def returnHello(x):      return 'Hello 2'  print(returnHello(x)) | function returnHello(x) {      return 'Hello 2'  }  console.log(returnHello(x)); |

1. Create a function that takes two arguments, adds their values together, assigns the new value to a local variable, and returns that variable

|  |  |
| --- | --- |
| x = 9  y = 10  def add(x, y):      z = x + y      return z  print(add(x, y)) | var x = 9  var y = 10  function add(x, y) {      let z = x + y      return z  }  console.log(add(x, y)); |

1. Create a loop that repeats while a variable’s value is true

|  |  |
| --- | --- |
| while x:      print('Repeating')      x = False | while (x < 21) {      console.log('Repeating')      var x = false  } note to change this |

1. Create a loop that repeats while a variable’s value is true, but will break mid-loop if another variable equals false

|  |  |
| --- | --- |
| x = True  y = True  while x and y:    print('Repeating 2')    y = False | var x = true  var y = true  while (x && y) {      console.log('Repeating 2');      y = false  } |

1. Create an array/list that contains three strings

|  |  |
| --- | --- |
| z = ['1', '2', '3'] | const z = ['1', '2', '3'] |

1. Using the array from #12, remove the last element in the array

|  |  |
| --- | --- |
| z.pop() | z.pop() |

1. Using the array from #12, remove the first element in the array

|  |  |
| --- | --- |
| z.pop(0) | z.shift() |

1. Using the array from #12, remove the element in the middle (index 1)

|  |  |
| --- | --- |
| z.pop(1) | delete z[1] |

1. Using the array from #12, output the first element

|  |  |
| --- | --- |
| print(z[0]) | console.log(z[0]); |

1. Create an empty array. Then add a string element to it

|  |  |
| --- | --- |
| newArray = []  newArray.append('Hello There') | newArray = []  newArray.push('Hello There') |

1. Using the array from #12, use a loop to output each element

|  |  |
| --- | --- |
| z = ['1', '2', '3']  for item in z:  print(item) | z = ['1', '2', '3']  for (item in z) {  console.log(item);  } |

1. Using the array from #12, use a loop to output the index of each element

|  |  |
| --- | --- |
| index = 0  for item in z:  print(index)  index += 1 | var index = 0  z.forEach((elementIndex) => {      console.log(index)      index++;  }); |

1. Create an object with one property and one method. The property value will be a string, and the method will output the value of this object’s property.

|  |  |
| --- | --- |
| class PropAndMethod:      propertyValue = "String"      def Output(self):          print(self.propertyValue)  newObject = PropAndMethod()  print(newObject.Output()) | class PropAndMethod {      constructor(propertyValue) {          this.propertyValue = propertyValue  }      Output() {          console.log(propertyValue)  }}  const newObject = new PropAndMethod("String");  console.log(newObject.Output) |

1. Using the object in #20, print the name of each property/method key in the object

|  |  |
| --- | --- |
| keyNames = [method for method in dir(PropAndMethod) if method.startswith("\_\_") is False]  print(keyNames) | Object.keys(newObject).forEach(prop => console.log(prop)) |

1. Create a variable whose value is a string equal to the name (key) of the property of the object in #20. Output the property value of the object by using the variable (not the property name)

|  |  |
| --- | --- |
| variable = "propertyValue"  variable = newObject.propertyValue  print(variable) | var variable = "propertyValue"  console.log(newObject.propertyValue = variable) |

1. Create a two-dimensional array
   1. Create an array/list with three elements
   2. Each element is another array/list with three elements whose values are strings

|  |  |
| --- | --- |
| twodims = [["one", "two", "three"], ["1", "2", "3"], ["uno", "dos", "tres"]] | var twodims = [["one", "two", "three"], ["1", "2", "3"], ["uno", "dos", "tres"]] |

1. Using the array in #23, use two loops (one inside the other) to output all 9 elements in the multi-dimensional array.

|  |  |
| --- | --- |
| for item in twodims:  for seconditem in item:  print(seconditem) | twodims.forEach((item) => {      item.forEach((seconditem) => {          console.log(seconditem)      })  }) |

1. Add a new property to the object used in #20 with a number value

|  |  |
| --- | --- |
| newObject.numberValue = 5  print(newObject.numberValue) | newObject.numberValue = 5  console.log(newObject.numberValue) |