GUVI: Zen Class — Variables Arrays & Objects

# ****Task 1: Simple Programs to do for variables****

1. Declare four variables without assigning values and print them in console

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| var a;  var b;  var c;  var d;  console.log(a)  console.log(b)  console.log(c)  console.log(d) | Output:  undefined  undefined  undefined  undefined |

1. How to get value of the variable myvar as output

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| --- | --- |
| var myvar= 1;  console.log("myvar");  //or  var myvar= 1;  console.log(myvar); | Output: myvar Output: 1 |

1. Declare variables to store your first name, last name, marital status, country and age in multiple lines

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| --- | --- |
| var firstname = "Swathi";  var lastname = "Johnson";  var maritalstatus = "Single";  var country= "India";  var age= 25;  console.log(firstname);  console.log(lastname);  console.log(maritalstatus);  console.log(country);  console.log(age); | **Output:**  Swathi  Johnson  Single  India  25 |

1. Declare variables to store your first name, last name, marital status, country and age in a single line

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| --- | --- |
| var firstName = "Swathi",  lastName = "Johnson",  marital\_status = "Single",  country = "India",  age = 25;  console.log(firstName,lastName,",",marital\_status,",",country,",",age); | **Output:** Swathi Johnson , Single , India , 25 |

1. Declare variables and assign string, boolean, undefined and null data types

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| let a = true;  let b = false;  let c = null;  let d;  let e = "This is a String-";  console.log(a,typeof(a));  console.log(b,typeof(b));  console.log(c,typeof(c));  console.log(d,typeof(d));  console.log(e,typeof(e)); | **Output:** true 'boolean'  false 'boolean'  null 'object'  undefined 'undefined'  This is a String- string |

1. Convert the string to integer

* parseInt()
* Number()
* Plus sign(+)

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| --- | --- |
| // Number() method:  var a = Number("1000");  console.log(a,typeof(a)); | **Output:**  1000 'number' |
| // parseInt() method :  let b = parseInt("2000");  console.log(b,typeof(b)); | **Output:**  2000 'number' |
| //Plus sign(+) method:  var c = +"200";  console.log(c,typeof(c)); | **Output:**  200 'number' |

1. Write 6 statement which provide truthy & falsey values.

let t1 = "abc";

let t2 = "123";

let t3 = true;

let f1 = null;

let f2;

let f3 = false;

# Task 2: Simple Programs todo for Operators

8) Square of a number

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| function square(n) {  return n \* n;  }  var sq=square(2);  console.log(sq) |

9)Swapping 2 numbers

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| --- |
| function swap(n1, n2) {  (n1 = 5), (n2 = 6);  let arr = [];  arr.push(n1);  arr.push(n2);  arr[0] = n2;  arr[1] = n1;  return arr.join();  }  console.log(swap()); |

10) Addition of 3 numbers

|  |
| --- |
| function sum(n1, n2, n3) {  return n1 + n2 + n3;  }  var total=sum(1,2,3);  console.log(total); |

11) Celsius to Fahrenheit conversion

//formula (0°C × 9/5) + 32 = 32°F

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| --- | --- |
| function conversion(n) {  let a = n \* (9 / 5);  return a + 32;  }  var c= conversion(12);  console.log(c); | Output: 53.6 |

12) Meter to miles

//divided the length value by 1609

|  |
| --- |
| function mtr(n) {  return n / 1609;  }  var miles=mtr(1);  console.log(miles); |

13) Pounds to kg

// divided the mass value by 2.205

|  |
| --- |
| function p(n) {  return n / 2.205;  } var kg=p(100);  console.log(kg); Output: 45.35147392290249 |

14)Calculate Batting Average for given array

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| --- |
| function avg(arr) {  let n = arr.length;  let sum = 0;  for (let i in arr) {  sum += arr[i];  }  return sum / n;  } |

15)Calculate five test scores and print their average

|  |
| --- |
| function avg(arr) {  let n = arr.length;  let sum = 0;  for (let i in arr) {  sum += arr[i];  }  return sum / n;  }  console.log(avg([12, 24, 48, 60, 70])); Output: 42.8 |

16)Power of any number x ^ y.

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| --- |
| function pow(a, b) {  return Math.pow(a, b);  } |

17)Calculate Simple Interest

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| --- |
| function sI(p, r, t) {  return (p \* r \* t) / 100;  } |

18)Calculate area of an equilateral triangle

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| --- |
| function eqiTriArea(a) {  let squrt = Math.sqrt(3);  let square = Math.pow(a, 2);  return (squrt \* square) / 4;  } |

19)Area Of Isosceles Triangle

|  |
| --- |
| function isoTriArea(b, h) {  return (b \* h) / 2;  } |

20)Volume Of Sphere

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| --- |
| function volSphere(r) {  let cube = Math.pow(r, 3);  return (4 \* Math.PI \* cube) / 3;  } |

21)Volume Of Prism

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| /\*The formula for the volume of a prism is Volume=Base\*height , The base of the prism is a rectangle. The length of the rectangle is 9 cm and the width is 7 cm.\*/  function prismVol(B, h) {  return B \* h;  } |

22)Find area of a triangle.

|  |
| --- |
| function triArea(b, h) {  return (b \* h) / 2;  } |

23)Give the Actual cost and Sold cost, Calculate Discount Of Product

|  |
| --- |
| function actCost(n1, n2) {  return n1 - n2;  } |

24) Given their radius of a circle and find its diameter, circumference and area.

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| function findDiameter(r) {  let diameter = 2 \* r;  return diameter;  }  function findArea(r) {  let area = Math.PI \* Math.pow(r, 2);  return area; }  function findCircum(r) {  let circum = 2 \* Math.PI \* r;  return circum;  }console.log(findCircum(2)); |

//25)Given two numbers and perform all arithmetic operations.

let num1=5;

let num2=2;

let addition = num1 + num2;

let subtraction = num1 - num2;

let multiplication = num1 \* num2;

let division = num1 / num2;

console.log(addition);

console.log(subtraction);

console.log(multiplication);

console.log(division);

//26)Display the asterisk pattern as shown below(No loop needed):

// \*\*\*\*\*

// \*\*\*\*\*

// \*\*\*\*\*

// \*\*\*\*\*

// \*\*\*\*\*

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| let number = 5;  for (let i = 0; i < number; i++) {  for (let j = 0; j < number; j++) {  console.log("\*");  }  console.log("\n");  } |

//27)Calculate electricity bill?

//For example, a consumer consumes 100 watts per hour daily for one month. Calculate the total energy bill of that consumer if per unit rate is 10?

//watt\*rate\*time

|  |
| --- |
| function bill(w, r, t) {  let kwh = (w \* t) / 1000;  let perDayBill = kwh \* r;  let monthlyBill = perDayBill \* 30;  return monthlyBill;  }  console.log(bill(100, 10, 1)); |

//28)Program To Calculate CGPA

// To convert Percentage to CGPA, divide the percentage by 9.5 and the outcome will be your CGPA. (percentage/9.5)

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| --- |
| function calcCgpa(marks, totalMarks) {  let percentage = (marks / totalMarks) \* 100;  return percentage / 9.5;  }  console.log(calcCgpa(480, 600)); |