# TASK 1: **Simple Programs todo for variables**

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

Code:

let counter;

let size;

let message;

let user;

console.log(counter);

console.log(size);

console.log(message);

console.log(user);

##### Output:

undefined

undefined

undefined

undefined

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

Code:

var myvar= 1;

console.log(myvar);

##### Output:

1

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

const firstName = "Subhangi";

const lastName = "Mukherjee";

let maritalStatus = "unmarried";

const country = "India";

let age = 22;

console.log(firstName);

console.log(lastName);

console.log(maritalStatus);

console.log(country);

console.log(age);

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

Code:

let myString = "I love javascript";

let everything = true;

let a;

let b = null;

console.log(myString);

console.log(everything);

console.log(a);

console.log(b);

**Output:**

I love javascript

true

undefined

null

5. Convert the string to integer

Code:

let myStr = parseInt("I am 25 years old.")

let myString = +("You are 30 years old.")

let myString1 = Number("You are 30 years old.")

console.log(myStr);

console.log(myString);

console.log(myString1)

##### Output:

NaN

NaN

NaN

Write 6 statement which provide truthy & falsy values.

Falsey values-

Let a = “”;

Let b = undefined;

Let c = null;

Truthy values-

Let a = “hello”;

Let b = 28;

Let c = true;

# TASK 2: Simple Programs todo for Operators

Square of a number

Code:

const squareNum = num => num \* num;

console.log(squareNum(2));

console.log (squareNum (4));

##### Output:

##### 4

##### 16

Swapping 2 numbers

Code:

const readline = require('readline');

const inp = readline. createInterface({

input: process.stdin

});

const userInput = [];

inp.on("line", (data) => {

userInput.push(data);

});

inp.on("close", () => {

let a = 1;

let b =2;

let temp;

temp = a;

a = b;

b = temp;

console.log(a);

console.log(b);

});

##### Output:

2

1

Addition of three numbers

Code:

const additionOfThreeNumbers=(a,b,c) => {

let sum = a+b+c;

return sum;

}

console.log(additionOfThreeNumbers(2,3,5));

##### Output:

10

Celsius to Fahrenheit conversion

Code:

function multiplyByNineFifths(number) {

return number \* (9/5);

}

function getFahrenheit(celsius) {

return multiplyByNineFifths(celsius) + 32;

}

console.log(getFahrenheit(15));

##### Output:

59

Meter to miles

Code:

const meterToMiles = m => m\*0.00062137;

console.log(meterToMiles(15));

##### Output:

0.00932055

Pounds to kg

Code:

const PoundTokg = p => p\*0.453592;

console.log(PoundTokg(15));

##### Output:

6.80387999999999

Calculate five test scores and print their average

let a = 90;

let b = 80;

let c = 75.5;

let d = 70.5;

let e = 70;

let sum = a+b+c+d+e;

let avg = sum / 5;

console.log(avg);

##### Output:

77.2

Power of any number x ^ y.

Code:

const power =function( x , y){

let res = Math.pow( x , y);

return res;

}

console.log(power(7,2));

##### output:

49

Calculate Simple Interest

Code:

const readline = require('readline');

const inp = readline.createInterface({

input: process.stdin

});

const userInput = [];

inp.on("line", (data) => {

userInput.push(data);

});

inp.on("close", () => {

let dummy = userInput[0].split(" ");

let p = (dummy[0]);

let t = (dummy[1]);

let r = (dummy[2]);

let si = (p\*t\*r)/100;

let n = si.toFixed(2)

console.log(n);

});

**Sample Input :**  
1000 2 5

##### Output:

##### 100.00

Given radius of a circle, finds its diameter, circumference and area

Code:

const readline = require('readline');

const inp = readline.createInterface({

input: process.stdin

});

const userInput = [];

inp.on("line", (data) => {

userInput.push(data);

});

inp.on("close", () => {

let PI = 3.1415;

let radius = +userInput[0];

let circumference = (2 \* PI \* radius);

let diameter = 2 \* radius;

let area = PI\*(radius\*radius);

let res = circumference.toFixed(2);

console.log(res);

console.log(diameter);

console.log(area);

});

**Sample Input:**  
2

##### Output:

12.57

4

12.566

Calculate area of an equilateral triangle.

Code:

let a = 20;

let area = ( 1.73205 \* a \* a)/4

let res = area.toFixed(2);

console.log(res);

##### Output:

173.21

Area of Isosceles Triangle

Code:

const iso =function(a,b){

let area = (b/4)\*Math.sqrt((4\*a\*a)-(b\*b));

return area;

}

console.log(iso(5,8));

##### Output:

12

Volume of Sphere

Code:

const sphere =function(r){

let vol = 4/3\*3.14\*r\*r\*r;

return vol;

}

console.log(sphere(4));

##### Output:

267.94666666666666

Find area of a triangle.

Code:

const tri =function(base,height){

let area = base\*height/2;

return area;

}

console.log(tri(4,5));

##### Output:

10

Given two numbers and perform all arithmetic operations.

Code:

let i = 5;

let j = 2;

//performing all arithmetic operations

console.log(i+j);

console.log(j-i);

console.log(i\*j);

console.log(j/i);

console.log(j%i);

console.log(i\*\*j);

console.log(++i);

console.log(j--);

##### Output:

7

-3

10

0.4

2

25

6

2

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

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*

Code:

let str = "\*\*\*\*\*";

console.log(str);

console.log(str);

console.log(str);

console.log(str);

console.log(str);

##### Output:

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

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

Code:

const readline = require('readline');

const inp = readline.createInterface({

input: process.stdin

});

const userInput = [];

inp.on("line", (data) => {

userInput.push(data);

});

inp.on("close", () => {

let mp = +userInput[0];

let sp = +userInput[1];

let discount;

if ( mp > sp ) {

discount = mp - sp;

console.log(discount);

}

else{

console.log("No discount");

}

});

##### Output:

20

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?

Code:

let power = 100;

let noOfHours = 24;

let noOfDays = 30;

let perUnitRate = 10;

let totalEnergyConsumed = (power\*noOfHours\*noOfDays\*perUnitRate)/1000;

console.log("Total Energy bill of the consumer "+"Rs "+ totalEnergyConsumed)

##### Output:

Total Energy bill of the consumer Rs 720

Program To Calculate CGPA

Code:

let english = 9.1

let hindi = 8.5

let maths = 9.5

let science =9.6;

let socialStudy = 8.6

let cgpa = (9.1+8.5+9.5+9.6+8.6)/5;

console.log("CGPA IS " + cgpa);

##### Output:

CGPA IS 9.06

Calculate Batting Average

Code:

let runsScored = 522;

let timesOut = 17;

let battingAvg = runsScored/timesOut;

console.log(battingAvg);

##### Output:

30.705882352941178

Volume Of Prism

const prism =function(area,height){

let vol = area\*height;

return vol;

}

console.log(vol(5,8));

##### Output:

40

# Part 1:**Find the culprits and nail them — debugging JavaScript**

**Find the culprit**

fix.html

<!DOCTYPE html>  
<html>  
<body>  
 <script>  
 alert( “I’m JavaScript!’);  
 </script>  
 Whats the error in this ?  
</body>  
</html>

Ans: We cannot use alert in an html page.

explain.html

<!DOCTYPE html>  
<html>  
<body>  
 <script src=”script.js”></script>  
</body>  
</html>

script.js

alert("I'm JavaScript!");  
alert('Hello') // this line is not having semicolon  
alert(`Wor  
 ld`)  
alert(3 +  
1  
+ 2); // this is multiple line code and its working

**ANS:** The alert() method in JavaScript displays an alert box with a specified message and an OK button. So first it will give I'm JavaScript! Then Hello then world and the it will treat the 3 numbers as integer and will print as a 6.

**Fix the below to alert**Guvi geek

fix.html

<!DOCTYPE html>  
<html>  
<body>  
 <script src=”script.js”></script>  
</body>  
</html>

script.js

let admin=9, fname=10.5;   
fname = "Guvi";  
lname = "geek"  
admin = fname+lname;alert( admin ); // "Guvi geek"

ANS : let admin=9, fname=10.5;

fname = "Guvi";

lname = "geek"

admin = fname+" "+lname;

alert( admin );

**Fix the below to alert**hello Guvi geek

script.js

let fname=10.5;   
fname = "Guvi";  
lname = "geek"let name = fname+lname;alert( 'hello ${name}' );

ANS: let fname=10.5;

fname = "Guvi";

lname = "geek"

let name = fname+" "+lname;

alert( `hello ${name}` );

**Fix the below to alert sum of two numbers**

script.js

let a = prompt("First number?");  
let b = prompt("Second number?

ANS: let a = +prompt("First number?");

let b = +prompt("Second number?");

alert(a + b);

**Explain Why the Code is blasted and how to diffuse it and get “**Diffused**”.**

var a = "2" > "12";//Don't touch below this  
if (a) {  
 console.log("Code is Blasted")  
}  
else  
{  
 console.log("Diffused")   
}

Ans: As a is the condition in the if and as it holds the value above thus its printing “code is blasted” and if we change the value in the if condition such as a = “2”<”12” the condition will be false and thus “diffused” will be printed.

**How to get the success in console.**

script.js

let a = prompt("Enter a number?");//Don't modify any code below if (a) {  
 console.log( 'OMG it works for any number inc 0' );  
}  
else  
{  
 console.log( "Success" );  
}

Ans: if we give a that is in the “if” condition a different value than what we give in prompt , then “Success” will be printed.

**How to get the correct score in console.**

script.js

let value = prompt('How many runs you scored in this ball');  
if (value === 4) {  
 console.log("You hit a Four");  
} else if (value === 6) {  
 console.log("You hit a Six");  
} else {  
 console.log("I couldn't figure out");  
}

ANS: let value = prompt('How many runs you scored in this ball');

if (value === 4) {

console.log("You hit a Four");

} else if (value === 6) {

console.log("You hit a Six");

} else {

console.log("correct score is " + value);

}

**Change the code:**

**3**

**2**

**1**

ANS: let i = 3

while (i) {

console.log( i-- );}

**Change the code to print even numbers**

script.js

//You are allowed to modify only one character for (let num = 2; num <= 20; num += 1) {  
 console.log(num)  
}

ANS: for (let num = 2; num <= 20; num += 1) {

if(num%2===0){

console.log(num)

}

}

**Change the code to print all the gifts**

script.js

let gifts = ["teddy bear", "drone", "doll"];for (let i = 0; i < 3; i++) {  
 console.log('Wrapped ${'gifts[i]'} and added a bow!');  
}

ANS: let gifts = ["teddy bear", "drone", "doll"];

for (let i = 0; i < 3; i++) {

console.log(`Wrapped ${gifts} and added a bow!`);

}

Whats the msg printed and why?

var lemein = “0”;  
var lemeout = 0;  
var msg = “”;

if (lemein) {  
 msg += “hi”;  
 }if (lemeout) {  
 msg += ‘Hello’;  
}console.log(msg);

ANS: hi , because the first If condition is true.