**Exercise => 1**

**Question 1**

What is Programming Language?

Ans. vah language computer ko smj me aati h. or programing language vah sintex and symbol h jinka use software bnane me kam aata hai .

### Question 2

Tell about machine language?

Ans. Yhe ek low level language hai. Esme binary code hote. :- 0 or 1 en binary code se puri language bnti h .

### Question 3

Why different programming languages are used for coding?

Ans. Kyoki kuch language aesi hoti h jo platform platform Independent hoti h jo kuch platform pr chlti hai kuch pr nhi chlti hai. Esliye alag alag platform ke liye alg language use ki jati hai.

### Question 4

Tell about front-end and back-end languages?

### Question 5

What is front-end?

### Question 6

What is back-end?

Fron-end :- front-end software ka vah part hota jo webpage ke frontpage pr work krta hai. front end ka mtlb hota hai ki kisi bhi softwere ka vah hissa jisse hum dekh skte hai.

Back-end :- back-end software ka vah part hota jo webpage ke piche work krta hai. back ka mtlb hota hai ki jese kisi api ka call krana jo server side kam krti hai. Jisse hum dekh nhi skte hai.

### Question 7

What are the basic requirements for anyone who wants to become a front-end or back-end developer?

Ans. computer science filed me dgree honi chaiye. Or HTML , CSS and javascript jesi programing language ke bare me jankari honi chaiye .

### Question 8

Difference between front-end developer and designer?

Ans. Designer :- designer ke webpage bnane ke liye uski bnavat and color ke bare me sochta hai. Or designer ek sirf design tyar krta hai.

Front-end developer :- front-end ek webpage bnane ke liye usse code likhne pdte hai. Or front-end ek webpage ko designing krne ke sath sath click able bhi bnata hai.

### Question 9

What is HTML?

Ans. full form :- hyper text markup language.

Yhe ek markup language hai jo website ke webpages bnane me kam aati hai.

### Question 10

What is CSS? What is JavaScript?

CSS :- full form :- Cascading style sheet

Yhe html se bne webpage ko styling krne me kam aati h.

Javascript :- yhe ek high level language h. yhe website ke webpage ko interactive bnane me kam aati hai.

### Question 11

What is role of HTML, CSS and JavaScript?

Ans. full form :- hyper text markup language.

Yhe ek markup language hai jo website ke webpages bnane me kam aati hai.

CSS :- Cascading style sheet

Yhe html se bne webpage ko styling krne me kam aati h.

Javascript :- yhe ek high level language h. yhe website ke webpage ko interactive bnane me kam aati hai.

### Question 12

Where can we use JavaScript in programming?

Ans. yhe ek scripting language hai. javascript ka use website bnane me kiya jata. Es language ko front-end or back-end dono use kr skte hai. And yhe webpage ko daynemic bnati hai.

### Question 13

Please tell about the history of JavaScript?

Ans. javascript ko first time Brendan Eich ne 1995 me bnaya tha.  Javascript ko phle mocha name se jana tha, fir bad me iska naam live script hua or last ma Javascript hua.

### Question 14

Who invented JavaScript.

Ans. invite by Brendan Eich in 1995.

### Question 15

What is ECMAScript?

Ans. ECMA :- European computer menufeature association.

Ecmascript ke snastha h jo javascript jesi koi bhi scripting language jo webpage bnane ke liye bnayi jaiegi unhe ecma script ke rule follow krne honge.

### Question 16

What are the famous JavaScript versions and why?

Ans. ES 6 :- kyuki esme variable let, const and arrow fuctions etc release kiye gye the.

### Question 17

How to use JavaScript in front-end and back-end?

Ans. front-end:- javascript ka use front-end me webpage ko click able and dynamic bnane me use hoti hai.

Back-end:- javascript ka use back-end me webpage ke behind jo bhi work hota hai jese api call krana hota vnme javascript use li use hoti hai.

### Question 18

What is web-browser?

Ans. world wide web page pr jankari lene ke liye jo softwere use krte hai usse web browser khete hai.

### Question 19

What is website?

Ans. bahoot saare pages ko jb milate h to ek website bn jaati hai.

### Question 20

What is web page?

Ans. web page ka mtlb hota h jb koi bhi website open krte h to jo usme alg alg pages hote h uhne webpages khete hai.

# Exercise => 2

### Question 1

Print 1 to 10 using ++ operator

Ans. let i= 1

for(i > 1; i <= 10;i++){

console.log(i);

}

### Question 2

Print 10 to 1 using – operator

Ans. let i= 10

for(i < 10; i >= 1;i--){

console.log(i);

}

### Question 3

Check output of following in console

* 1+1

console.log(1+1); // 2

* 1+200

console.log(1+200); // 201

* 200+"300"

console.log(200+"300"); // 200300

* "learnjavascript" + 400

console.log("learnjavascript"+ 400); //learnjavascript400

**Question 4**

Check result of following

* 2 === 2

console.log(2 === 2); //true

* 2 == "2"

console.log( 2 == "2"); //true

* 2 === +"2"

console.log( 2 === +"2"); //true

* "learnjavascript" == "learnjavascript"

console.log("learnjavascript" == "learnjavascript"); //true

* "LearnJavascript" == "learnjavascript"

console.log( "LearnJavascript" == "learnjavascript"); //false

* 0.3 == 0.30

console.log(0.3 == 0.30); //true

* 1.0 == 1

console.log(1.0 == 1); //true

* 1.0 === 1

console.log( 1.0 === 1); //true­­­

### Question 5

Create 5 variables for your bank account details. It would be better if you use let, const and var all 3

Ans. let Name = “shivraj jajra” ;

let BankName = “pnb” ;

let BankAccount = 558975973459475;

let IFCEcode = PUNB72489704;

let accountType = “saving”;

### Question 6

Write any code and explain that code using multi line comment

Ans. /\* let i = 1

while(i <= 100){

console.log(prompt("what is your age")); \*/

yhe [ /\* \*/] ek multi line comment h yhe ek code block ya bahoot saari line ko ek sath comment kr skta hai.

### Question 7

Write difference between Process and Thread

|  |  |
| --- | --- |
| process | thread |
| Yhe ek heavy weight process hota h. | Thread ek process ka part hota hai. And yhe ek light weight hota hai |
| process me system calls prnali samil hoti hai. | Thread me koi system calls prnali samil nhi hoti hai. |

### Question 8

Write differences between let, const and var

|  |  |  |
| --- | --- | --- |
| var | let | const |
| Var me dubara variable name and value assian kr skte h | let me dubara value assian kr skte h but variable name du bara nhi assian kr skte hai | const me dubara variable name and value fix hoti h ese change nhi kr skte hai. |
| Var variable ko declertion sa phele use kar skte hai. | let variable ko declertion se phele use nahi kar skte hai. | const variable ko declertion se phele use nahi kar skte hai. |

### Question 9

Give 1 example of each operator with expected output:

* \*\*

console.log(2\*\*3); // 8

* %

console.log(10 % 3); // 1

* !=

console.log(10 != 3); //true

* !==

console.log(10 !== 3); //true

console.log(10 !== “3”); //false

* <=

console.log(10 <= 3); //false

* >=

console.log(10 >= 3); //true

### Question 10

Write in your own language. What is JavaScript? Explain in detail.

Ans. javascript ek high level language hai. Javascript ko hum web bnane me use kr skte hai .esse web intrective bnai ja skti h. pehle eska use only web bnane me hota tha lekin ab hum ese back end me bhi use kr skte hai .

# Exercise => 3

### Question 1

Create a variable marks and assign any number. If marks are greater than 60 then print Pass else print Fail.

Ans. let i = 23;

let j = 35

if(i % 2 === 0 && j % 2 === 0){

console.log("even");

}else{

console.log("odd");

}

### Question 3

Take 4 variables a, b, c, d and assign their values in the way mentioned below and check output: a = b b = c c = d d = a

Ans. let a = 5;

let b = 10;

let c = 15;

let d = 20;

a = b //a= 10 ; b= 10

// > b= 10

b = c //b = 10 ; c = 10

// > c = 10

c = d // c= 10 ; d = 10

// > d = 10

d = a // d = 10 ; a = 10

console.log(a,b,c,d);

### Question 4

Print 2's table using \*\* operator. Use any logic but it should print 2's table.

Ans. console.log(2\*\*1);

console.log(2\*\*2);

console.log(2\*\*2+2);

console.log(2\*\*3);

console.log(2\*\*3+2);

console.log(2\*\*3+4);

console.log(2\*\*4-2);

console.log(2\*\*4);

console.log(2\*\*4+2);

console.log(2\*\*4+4);

### Question 5

Check output of following and validate your answers

2+5\*10-20\*\*2 ;//52-400 => -348

20/5\*10+10; // 40+10 => 50

10 && 20 + 10 \* 10; // 10 && 120 => 120 {bug}

30 > 20 && 10 + 4 < 15 ;//true && true => true

console.log((30 > 20 && 10 + 4 < 15) || 10); //true+true => true

30 < 20 || 10 + 5 < 15 || 10; // false || false => 10 {bug}

30 < 20 || 10 + 5 < 15 && 10 //true && 10 => false

### Question 6

Take a number and check if number is odd or not. If number is Odd then print Yes else print No

Ans. let i = 5

if( i % 2 === 0){

console.log("even")

}else{

console.log("odd");

}

### Question 7

Take a number and check if number is divisible by 10 && 5. If yes then print Yes else print no

Ans. let i = 15;

i % 5 === 0 && i % 10 === 0 ? console.log("yes") : console.log("N0");

### Question 8

Take a number and check if number \* 20 makes it 100 or not. If yes the print Yes else print No

Ans. let i = 5;

i \* 20 ? console.log("yes") : console.log("N0");

### Question 9

Calculate your 10th percentage and print Pass or Fail if marks are more than 70 then print Pass else print Fail

Ans. let mark = 900;

let totalmark = 1000;

let percentage = (totalmark/mark)\*100

if(percentage > 70 ){

console.log("pass");

}else{

console.log("Fail");

}

### Question 10

Take your age and check if your age is greater than 21 then print Adult else print Minor

Ans. let birthYear = 2004;

let today = 2023;

let myAge = today- birthYear

if(myAge > 21 ){

console.log(myAge+ " Adult")

}else{

console.log(myAge+ " Minor")

}

### Question 11

Convert all if-else solutions to ternary operator solution. So instead of using if-else, use ternary operator.

let i = 5

if(i % 2 === 0){

console.log("even");

}else{

console.log("odd");

}

=> convert to ternary operator :-

i % 2 === 0 ? console.log("even") : console.log("odd");

### Question 12

Implement mark-sheet logic

Take a field percentage

If percentage is >= 80 then print Distinction

If percentage is >= 60 and < 80 then print First division

If percentage >= 33 and < 60 then print Second division

if percentage < 33 then print Fail

ans. let per = 92;

if(per >= 80 ){

console.log("Distinction");

}else if( per < 80 && per >=60 ){

console.log("frist divison");

}else if(per < 60 && per >= 33){

console.log("second divison");

}else{

console.log("fail");

}

### Question 13

Find maximum of 2 numbers

Ans. let a =80 ;

let b = 50;

if( b > a ){

console.log( "maximum No. "+b);

}else{

console.log("maximum no. "+a);

}

### Question 14

Find maximum of 3 numbers

Ans. let num1 =79 ;

let num2 = 700;

let num3 = 700;

if( num1 > num2 && num1 > num3){

console.log("num1 is max. " + num1);

}else if( num2 > num1 && num2 > num3 ){

console.log("num2 is max. "+ num2);

}else if(num3 > num1 && num3 > num2){

console.log("num3 is max. "+ num3);

}else if(num1 === num2 && num2 === num3 && num3 === num1){

console.log("three are same " +num1,num2,num3);

}else if(num1 === num2){

console.log("num1 and num2 are same "+num1,num2);

}else if(num2 === num3){

console.log("num2 and num3 are same"+num2,num3);

}else if(num3 === num1){

console.log("num1 and num3 are same" +num1,num3 );

}

Exercise => 4

### Question 1

Take two numbers and take a value which should be the sum of the two numbers plus some other number. Now findout the 3rd number.

Ans.

let a = 5;

let b = 50;

let c = 15;

console.log(c - (a+b));

### Question 2

Ask the below questions:

* What is your English marks in 10th?
* What is your Science marks in 10th?
* What is your Math marks in 10th?
* What is your Hindi marks in 10th?
* What is your SST marks in 10th? Now calculate percentage by taking all the 5 subjects numbers.

let english = Number( prompt(" What is your English marks in 10th?"));

let Science = Number( prompt(" What is your science marks in 10th?"));

let maths = Number( prompt(" What is your maths marks in 10th?"));

let Hindi = Number( prompt(" What is your hindi marks in 10th?"));

let sst = Number( prompt(" What is your sst marks in 10th?"));

let total = Hindi + english + maths + Science + sst;

let per = (total / 500)\* 100;

console.log(per);

Question 3.

In which century were your born? find out by asking birth year. Use Math.floor function to remove decimal portion of the century. If you are born in any year after 1999 then century will be 20 and in the same way if you are born after 1899 then century will be 19th.

ans.

Question 4. Add 20 in your name and check value in console.

Ans. let myName = "shivraj jajra";

console.log(20 + myName)

### Question 5

Create Reverse Game. Ask any question with 2 possible answers. If user selects first option then show second option in alert and vice versa.

For example: Do you drink coffee or tea? and If user says coffee then show Tea in alert and if user says tea then show coffee.

Ans. let ans = prompt("Do you eat bread or pizza?");

if (ans === "bread") {

console.log("pizza");

} else if (ans === "pizza") {

console.log("bread");

} else {

console.log("Wrong choice");

}

### Question 6

Test below conditions using &&, || and not logical operators. Take any number check if number is even and also check if number is multiple of 4 or not. If both conditions are true then check if number is less than 100 or number is 84 or not.

Ans. let i = 10;

if (i % 2 === 0 && i % 5=== 0 && (i < 100 || i === 84)) {

console.log("yes");

} else {

console.log("no");

}

Question 7.

Take city temprature. If temp is less than 10 degree then print very cold. If city temp is less than 30 and greater than equal to 10 then print cold. If temp is between 30 to 40 then print Hot. Else print Very hot.

Ans. let temp = 40;

if(temp < 10) {

console.log("Very Cold");

} else if(temp < 30 && temp >= 10 ) {

console.log("Cold")

} else if(temp <= 40 && temp >= 30) {

console.log("Hot")

} else {

console.log("Very Hot");

}

Question 8.

Using prompt ask user about his/her age. If user is greater than 18 then show user message "Do you want to open account?" If yes click on Okay button then ask your 4 below questions

Ans.