

JAVASCRIPT

Assignment



Values and Datatypes

1. Create a javascript file, using javascript comments, List all the datatypes of Javascript, and specify an example for each of them.

Ans:

The Following are the data types of JavaScript:

1. String
2. Number
3. Bigint
4. Boolean
5. Undefined
6. Null
7. Symbol
8. Object

```
/*
1. String: "I am happy to join PW Skills FSWD Course"

2. Number:-
    i) Integer: 9
    ii) Floating value: 10.2
    iii) Infinity: Number.POSITIVE_INFINITY,
          Number.NEGATIVE_INFINITY
    iv) Not a Number: NaN

3. BigInt: 1024n

4. Boolean: true, false

5. Undefined: undefined

6. Null: null

7. Symbol: Symbol('PW Skills')

8. Objects:-
    i) Array: [1, 2, "PW"]
    ii) Object: {name: "PW Skills", course: "FSWD"}
*/
```

Note: Please create a Google Document and write your answers and upload the shareable link of the Google Document with view access during the submission of assignment.

2. Create an array of 10 products that you have recently purchased or viewed on an e-commerce site.

Ans:

```
[  
    "iPhone",  
    "Macbook Pro",  
    "Flower Pot",  
    "Water Bottle",  
    "Mac Studio mini",  
    "Watch",  
    "Tennis Ball",  
    "Mouse Pad",  
    "Keyboard",  
    "Lens",  
];
```

3. Create an object of a student registry of 5 students whose key is the registration number and the value is the student name. Registration number starts from 1 and continues.

Ans:

```
{  
    1: "Mithun",  
    2: "Alka",  
    3: "Anurag",  
    4: "Prabir",  
    5: "Shivam",  
};
```

Variables and typeof

1. Specify an example for all the datatypes in Javascript, store the values in a variable, and verify the type of value stored.

Ans:

```
// 1. String  
  
let var1 = "I am happy to join PW Skills FSWD Course";  
console.log(typeof var1);  
  
// 2. Number:-  
  
// i) Integer:  
  
let var2 = 9;  
console.log(typeof var2);  
  
// ii) Floating value:  
  
let var3 = 10.2,  
console.log(typeof var3);  
  
// iii) Infinity:  
  
let var4 = Number.POSITIVE_INFINITY;  
console.log(typeof var4);  
  
// iv) Not a Number:  
  
let var6 = NaN;  
console.log(typeof var6);  
  
// 3. BigInt :  
  
let var7 = 1024n;  
console.log(typeof var7);  
  
// 4. Boolean:  
  
let var8 = true;  
console.log(typeof var8);
```

```
// 5. Undefined:  
  
let var9 = undefined;  
console.log(typeof var9);  
  
// 6. Null:  
  
let var10 = null;  
console.log(var10);  
  
// 7. Symbol:  
  
let var11 = Symbol("PW Skills");  
console.log(typeof var11);  
  
// 8. Objects:-  
  
// i) Array:  
  
let var12 = [1, 2, "PW"];  
console.log(typeof var12);  
  
// ii) Object:  
  
let var13 = { name: "PW SKills", course: "FSWD" };  
console.log(typeof var13);
```

2. Create 2 valid variables and 2 invalid variables and print them onto the console. Comment the results and error messages.

Ans:

```
// Valid variables  
  
let name = "PW Skills";  
console.log(name); // OUTPUT: PW Skills  
let iAmHappy = true;  
console.log(iAmHappy); // OUTPUT: true  
  
// Invalid Variables  
  
let 1name = "PW SKills"  
console.log(1name); // OUTPUT: SyntaxError: Invalid or unexpected token  
let var = 13  
console.log(var); // OUTPUT: SyntaxError: Unexpected token 'var'
```

Operators

1. Write a program that prints the multiplication table in the textbook format of any number specified.

Ans:

```
let number = 6;

console.log(`${number} * 1 = ${number * 1}`);
console.log(`${number} * 2 = ${number * 2}`);
console.log(`${number} * 3 = ${number * 3}`);
console.log(`${number} * 4 = ${number * 4}`);
console.log(`${number} * 5 = ${number * 5}`);
console.log(`${number} * 6 = ${number * 6}`);
console.log(`${number} * 7 = ${number * 7}`);
console.log(`${number} * 8 = ${number * 8}`);
console.log(`${number} * 9 = ${number * 9}`);
console.log(`${number} * 10 = ${number * 10}`);
```

```
/*
```

OUTPUT:

```
6 * 1 = 6
6 * 2 = 12
6 * 3 = 18
6 * 4 = 24
6 * 5 = 30
6 * 6 = 36
6 * 7 = 42
6 * 8 = 48
6 * 9 = 54
6 * 10 = 60
```

```
*/
```

2. Write a program to perform all the arithmetic operations [except increment and decrement operators] of javascript of any two numbers stored in the variables num1 and num2. Also, print the results to the console.

Ans:

```
let num1 = 10;
let num2 = 8;

// Addition (+): Adds two values together.
console.log(`The addition of num1 and num2 is ${num1 + num2}`);

// Subtraction (-): Subtracts one value from another.
console.log(`The subtraction of num1 and num2 is ${num1 - num2}`);

// Multiplication (*): Multiplies two values together.
console.log(`The multiplication of num1 and num2 is ${num1 * num2}`);

// Division (/): Divides one value by another.
console.log(`The division of num1 and num2 is ${num1 / num2}`);

// Modulus(%): Returns the remainder of a division operation.
console.log(
  `The result of modulo operation of num1 and num2 is ${num1 % num2}`
);

// Exponentiation(**): raises to the power of.
console.log(`The exponential of num1 and num2 is ${Math.pow(num1, num2)})`);
```

/*

OUTPUT:

The addition of num1 and num2 is 18
The subtraction of num1 and num2 is 18
The multiplication of num1 and num2 is 18
The division of num1 and num2 is 18
The result of modulo operation of num1 and num2 is 18
The exponential of num1 and num2 is 18

*/

3. Write a program to find out the perimeter of a rectangle. Print the results to the console.

Ans:

```
let length = 10;
let width = 20;

let perimeterOfRectangle = 2 * (length + width);

console.log(
`The perimeter of the rectangle with length: ${length} and width: ${width}
is ${perimeterOfRectangle}`
);

/*
OUTPUT:
The perimeter of the rectangle with length: 10 and width: 20 is 60
*/
```

3. Write a program to demonstrate the results of comparison operators. Note that both the truth and false condition for each operator must be specified.

Ans:

```
// Equal
let num1 = 12;
let num2 = 12;

console.log(num1 == num2); // true

let num3 = 12;
let num4 = 10;

console.log(num3 == num4); // false

// Not Equal
let num11 = 12;
let num12 = 12;

console.log(num11 != num12); // false

let num13 = 12;
let num14 = 10;
```

Assignment

```
console.log(num13 != num14); // true

// Strictly Equal
let num21 = 12;
let num22 = 12;

console.log(num21 === num22); // true

let num23 = 12;
let num24 = "12";

console.log(num23 === num24); // false

// Strictly Not Equal
let num31 = 12;
let num32 = 12;

console.log(num31 !== num32); // false

let num33 = 12;
let num34 = "12";

console.log(num33 !== num34); // true

// Greater Than
let num41 = 13;
let num42 = 12;

console.log(num41 > num42); // true

let num43 = 10;
let num44 = 12;

console.log(num43 > num44); // false

// Greater Than or Equal To
let num51 = 13;
let num52 = 12;

console.log(num51 >= num52); // true

let num53 = 10;
let num54 = 12;

console.log(num53 >= num54); // false

// Lesser Than
let num61 = 12;
let num62 = 13;

console.log(num61 < num62); // true
```

```
let num63 = 12;
let num64 = 10;

console.log(num63 < num64); // false

// Lesser Than or Equals To
let num71 = 13;
let num72 = 13;

console.log(num71 <= num72); // true

let num73 = 12;
let num74 = 10;

console.log(num73 <= num74); // false
```



What are Conditions, If, If-else, if-else-if

1. Write a program of traffic control that accepts the traffic light displayed and prints the message. If the traffic light is red print the vehicles must stop.

Ans:

```
let trafficLight = "orange";

if (trafficLight == "red") {
    console.log("Vehicles must stop.");
} else if (trafficLight == "orange") {
    console.log("Vehicles must wait. The signal is
changing to red or green.");
} else if (trafficLight == "green") {
    console.log("Vehicles may proceed with caution.");
} else {
    console.log("Invalid traffic Light");
}
```

2. Write a program to print the largest of 2 numbers.

Ans:

```
let num1 = 20;
let num2 = 15;

if (num1 > num2) {
    console.log("num1 is greater than num2");
} else {
    console.log("num2 is greater than num1");
}
```

3. Write a program that takes a number as input and outputs "Fizz" if it is divisible by 3, "Buzz" if it is divisible by 5, and "FizzBuzz" if it is divisible by both 3 and 5. Note that any number can be passed and not restricted to the numbers divisible by 3 or 5.

Ans:

```
let num = 5;

if (num % 5 == 0 && num % 3 == 0) {
    console.log("FizzBuzz");
} else if (num % 3 == 0) {
    console.log("Fizz");
} else if (num % 5 == 0) {
    console.log("Buzz");
} else {
    console.log("Invalid input");
}
```

Switch Case

1. Write a program that takes in a day of the week (e.g., Monday, Tuesday, etc.) and outputs the number of days until the weekend.

Ans:

```
const day = "Tuesday";

let daysUntilWeekend;

switch (day) {
  case "Monday":
    console.log(`There are 5 day(s) until the weekend.`);
    break;
  case "Tuesday":
    console.log(`There are 4 day(s) until the weekend.`);
    break;
  case "Wednesday":
    console.log(`There are 3 day(s) until the weekend.`);
    break;
  case "Thursday":
    console.log(`There are 2 day(s) until the weekend.`);
    break;
  case "Friday":
    console.log(`There are 1 day(s) until the weekend.`);
    break;
  case "Saturday":
  case "Sunday":
    console.log(`There are 0 day(s) until the weekend.`);
    break;
  default:
    daysUntilWeekend = "Invalid day";
    break;
}
```

2. Write a program that takes in a number between 1 and 12 and outputs the corresponding month of the year.

Ans:

```
const monthNumber = 1;

switch (monthNumber) {
  case 1:
    console.log("January");
    break;
  case 2:
    console.log("February");
    break;
  case 3:
    console.log("March");
    break;
  case 4:
    console.log("April");
    break;
  case 5:
    console.log("May");
    break;
  case 6:
    console.log("June");
    break;
  case 7:
    console.log("July");
    break;
  case 8:
    console.log("August");
    break;
  case 9:
    console.log("September");
    break;
  case 10:
    console.log("October");
    break;
  case 11:
    console.log("November");
    break;
  case 12:
    console.log("December");
    break;
  default:
    console.log("Invalid month number");
}
```

Ternary Conditions

1. Write a program that takes in a number and outputs whether it is positive, negative, or zero.

Ans:

```
let number = 0;
number == 0
? console.log("The number is zero")
: number > 0
? console.log("The number is greater than zero")
: console.log("The number is lesser than zero");
```

2. Create a program that takes in two numbers and prints the larger one.

Ans:

```
let num1 = 10;
let num2 = 10;

num1 == num2
? console.log("Both the numbers are equal.")
: num1 > num2
? console.log(`The larger number among the two numbers is ${num1}.`)
: console.log(`The larger number among the two numbers is ${num2}.`);
```

Loops

1. Write a program that generates the multiplication table in the textbook format for a given number.

Ans:

```
let number = 5;

for (let i = 1; i <= 10; i++) {
    console.log(` ${number} * ${i} = ${number * i}`);
}

/*
OUTPUT:

5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50

*/
```

2. Write a program that prints all the positive even numbers till the number specified.

Ans:

```
let number = 10;

for (let i = 1; i <= number; i++) {
  if (i % 2 == 0) {
    console.log(i);
  }
}

/*
OUTPUT:
2
4
6
8
10
*/
```