

1) Declare a variable called myLet using the let keyword and assign it the value 10. Print the value of myLet to the console using console.log(). Change the value of myLet to 20. Print the new value of myLet to the console using console.log().

```
let myLet=10;
console.log(myLet);
myLet=20;
console.log(myLet);
```

2) Declare a variable called myConst using the const keyword and assign it the value 3.14. Print the value of myConst to the console using console.log(). Attempt to change the value of myConst to 2.71. Observe the error message in the console and write a comment explaining why the error occurred.

```
const myConst = 3.14;
console.log(myConst);

// we cant re-assign and re-declare the variables that are defined.

// myConst=2.71;

console.log(myConst)
```

3) Write a program that calculates the area of a circle with a radius of 5. Use the Math.PI constant and the exponentiation operator (**) to perform the calculation.

```
const area_of_circle=Math.PI*(5**2);
console.log(area_of_circle);
```

4) Write a program that converts a temperature in degrees Celsius to Fahrenheit. Use the formula $F = (C * 9/5) + 32$ to perform the calculation, where C is the temperature in Celsius.

```
const a=1;
const F = (a*9/5)+32;
console.log(F);
```

OPERATORS:

5) Demonstrate the use of pre-increment/decrement and post-increment/decrement operators.

(++a, a++, --a, a--)

```
// Pre-increment
let y=5;
let x=++y;
console.log(x)

// post-increment

let E= 10;
let r1 = E++;
console.log(r1)

//decrement

let dec=10;
let d=--dec;
console.log(d)

// post decrement

let G= 10;
let count = G--;
console.log(count)
```

6) Demonstrate the use of all comparison operators (==, !=, ===, !==, >, >=, <, <=) and logical operators

(&&, ||, !).

i)

```
// Comparison operator

const H=2;
const b=4;
```

```
console.log(H==b)
console.log(H!=b)
console.log(H===b)
console.log(H!==b)
console.log(H>b)
console.log(H<b)
console.log(H>=b)
console.log(H<=b)
```

ii)//Logical operators

```
const num1=5;
const num2=6;
const num3=19;
if (num1<num2 && num2<num3){
    console.log(true)
}
else if (num1<num2 || num2<num3){
    console.log(false)
}

console.log(!(num1<num2 && num2>num3))
```

7)Write a program that takes two numbers as input and displays the larger of the two numbers using the ternary operator (? :).

```
/ TERNARY OPERATOR

let m = require("readline-sync");
m=m.questionInt("Enter the number")

let num2 = require("readline-sync");
num2=num2.questionInt("Enter the number")
```

```
const larger = (m>num2) ? m : num2;
console.log(larger)

const larger = (num1>num2) ? num1 : num2;
console.log(larger)
```

8) Write a program in JS to demonstrate the use of all the data types in JS. (Number, String, Boolean, BigInt, undefined, null, Symbol, Object).

```
// DATATYPE IN JS

// NUMBER

const a = 10;
console.log(typeof a)

//STRING

const str = "Anjali";
console.log(typeof str)

//UNDEFINED

let name;
console.log(typeof name);

//NULL DATATYPE

const name1 = null;
console.log(name1)

// BOOLEAN

const m = true;
console.log(typeof m)
```

```

// SYMBOL

const symbol1 = Symbol("Anjali");
let obj={
  a:12,
  b:14,
  c:symbol1
}
console.log(obj)


//object

let obj1={
  a:12,
  b:14,
  c:[1,2,3]
}
console.log(obj1)


// BIGINT

const bigInt = BigInt(927455836452829987654321);
console.log(bigInt);

```

9) Demonstrate the use of Implicit and Explicit type Conversion in JS.

```

// type conversion

//implicity

let n = 15;

```

```
let s = "anju";
console.log(n+s)

let n1=15;
let n2="15";
console.log(n2+n1)

const n3 = 15;
const n4 = "10";
console.log(n3-n4)
console.log(n3*n4)
console.log(n3/n4)
```

ii)

```
//Explicitly

const type = Number("15");
console.log(typeof type)

const type1 = String(155);
console.log(typeof type1)

const type2=Boolean(12);
console.log(typeof type2)

const type3=Number(true);
console.log(typeof type3)
```

10) Create two variables, num1 and num2, and assign them the values 10 and "5" respectively. Then do the following :-

```
// create two variable

const num1=10;
const num2="5";
const num1AsString=String(num1);
const num2AsNumber = Number(num2);
```

a) Convert num1 to a string and store the result in a new variable called num1AsString.

```
//sum of two numbers

const sum = num1AsString+num2AsNumber;
console.log(sum)
```

b) Convert num2 to a number and store the result in a new variable called num2AsNumber.

```
//product of two numbers

const product = nm1*nm2;
console.log(product)
```