

Task 2:

1. Explain the difference between var, let, and const.
Provide examples.

Ans:

- Var is the oldest method or way to create variable in JavaScript. It follows the global scope or functional scope i.e. if declared inside function it is only accessible for that function and if declared outside it is accessible from everywhere. It can be re-declared and re-initialized in same scope. It can be declared without initialization. It can be accessed without initialization as its default value is undefined. These variables are hoisted.
- let is the new method or way to define variable in JavaScript. It follows the block scope i.e. it is only accessible from inside block '{}' in which it is declared. It cannot be re-declared in same scope but can be re-initialized. It can be declared without initialization. It cannot be accessed without initialization as it will give error. These are hoist variables but temporarily stay in dead zone until initialized.
- const is used to create constants in JavaScripts. It follows block scope i.e. it is only accessible from inside block '{}' in which it is declared. It cannot be re-declared or re-initialized in same scope. It cannot be declared without initialization. It cannot be accessed without initialization and will give error. These are hoist variables but temporarily stay in dead zone until initialized.

2. Write a for loop to print all even numbers between 1 and 10

Ans:-

```
for(var i = 1 ; i < 10 ; i++){  
    if (i % 2 == 0){  
        console.log(i);  
    }  
}
```

3. Write a while loop that keeps doubling a number(starting from 1) until it is greater than or equal to 100.

Ans:-

```
let number = 1;
while (number < 100) {
  console.log(number);
  number *= 2;
}
console.log("Final number:", number);
```