

## Assignment no. 1 Variables

Q no. 1:-

Difference between let, var & const :-

1 - var is globally scoped while let & const are block scoped.

2 - var can be updated and re-declared within its scope.

3 - let can be updated but not be re-declared.

4 - Const can neither be updated nor be re-declared.

5 - var variables are initialized with undefined whereas let & const variables are not initialized.

6 - Const must be initialized, during declaration unlike let & var.

Examples:-

```
① function varTest() {  
    var x = 1;  
    {  
        var x = 2;  
    }
```

```
console.log(x); // 2
}
console.log(x); // 2
```

②

```
for var a = 1;
var b = 2;
{
  var a = 11; // global scope
  let b = 22; // block scope
  console.log(a); // 11
  console.log(b); // 22
}
console.log(a); // 11
console.log(b); // 2
```

③ function foo() {

var x = 1;

function bar() {

var y = 2;

console.log(x); // 1

console.log(y); // 2

}

bar();



```
console.log(x); // 1
console.log(y); // Reference error, 'y' is
                // scoped to 'bar'
}
foo();
```

④

```
var a = 1;
var a = 2;
console.log(a); // 2
var a;
console.log(a); // 2; not undefined.
```

⑤

```
var x = y;
y = "A";
console.log(x); // undefined
console.log(y); // A
```

⑥

```
var x = 0;
function f() {
  var x = y = 1; // declare x locally; declare
                // y globally.
}
f();
```

```
console.log(x,y); // 0,1
```

⑦

```
var x = 0;
```

```
console.log(type of z); // undefined.
```

```
function a() {
```

```
  var y = 2;
```

```
  console.log(x,y); // 0,2
```

```
  function b() {
```

```
    x = 3;
```

```
    y = 4;
```

```
    z = 5;
```

```
  } b();
```

```
  console.log(x,y,z); // 3 4 5
```

```
}
```

```
a();
```

```
console.log(x,z); // 3 5
```

```
console.log(type of y); // undefined
```

⑧ var fruit = 'apple';

```
{ var fruit = 'orange';
```

```
  console.log(fruit); // orange
```

```
}
```

```
console.log(fruit); // orange
```



```
⑨ b = 25;  
var b;  
console.log(b); // 25
```

```
⑩  
let h = 'khan';  
if (true) {  
    let h = 'hello';  
    console.log(h); // hello  
}  
console.log(h); // Khan
```

## Q2: History of JavaScript :-

The first popular web browser with a graphical user interface, Mosaic, was released in 1993. Accessible to non-technical people, it played a prominent role in the rapid growth of the early world wide web. The lead developers of Mosaic then founded the Netscape corporation, which released a more polished browser, Netscape Navigator in 1994. This became the most used.

During these formative years of the

web, web pages could only be static, lacking the capability for dynamic behavior after the page was loaded in the browser. There was a desire in the flourishing web development scene to remove this limitation, so in 1995, Netscape decided to add a scripting language to Navigator. They pursued two routes to achieve this: collaborating with Sun Microsystems to embed the Java programming language, while also hiring Brendan Eich to embed the scheme language.

Netscape management soon decided that the best option was for Eich to devise a new language, with syntax similar to java and less like scheme or other extant scripting languages. Although the new language and its interpreter implementation were called livescript when first shipped as part of a Navigator beta in Sep 1995, the name was changed to JavaScript for the official release in December.