**1.Draw Global Execution Context for Below Codes and Explain Line by line.**

**console.log(a);  
var a = 10;  
console.log(a);  
a = 20;  
console.log(a);**

|  |  |
| --- | --- |
| **Memory phase** | **Execution Phase** |
| Var a = Undefined;  Var a = 10;  Var a = 20; | console.log(a);  var a = 10;  console.log(a);  a = 20;  console.log(a); |

**Output**

Undefined

10

20

**Explanation**

Initially var a = undefined;

After the first line of execution value changes to 10.

Then it will become Var a = 10;

In third line it will print the value as 10

After the third line execution a value change’ s to 20. Because a variable assigned as 20.

Var a = 20;

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

**var b = 5;**

**var b = 15;**

**console.log(b);**

**b = b + 5;**

**console.log(b);**

|  |  |
| --- | --- |
| **Memory Phase** | **Execution Phase** |
| Var b = undefined;  Var b = 5;  Var b = 15;  Var b = 20; | console.log(b);  var b = 5;  var b = 15;  console.log(b);  b = b + 5;  console.log(b); |

**Output**

Undefined

15

20

**Explanation**

Initially Var ‘b’ will be undefined.

Var b = undefined;

In first line of execution the output will be Undefined.

In the second line b got assigned a value ‘5’.

Var b = 5;

In the third line b got again reassigned a value ‘15’.

Var b = 15;

In fourth line the output of b will be ‘15’.

In fifth line the b got add a ‘5’ now it changes to the value ‘20’.

Var b = 20;

Finally, In sixth line the output of the b will be ‘20’.

**3.console.log(c);**

**c = 30;**

**var c;**

**console.log(c);**

**c = c \* 2;**

**console.log(c);**

|  |  |
| --- | --- |
| **Memory phase** | **Execution Phase** |
| Var c = undefined;  Var c = 30;  Var c = 60; | console.log(c);  c = 30;  var c;  console.log(c);  c = c \* 2;  console.log(c); |

**Output**

Undefined

30

60

**Explanation**

Initially the var c will be ‘undefined’. In the first line the output will be printed as undefined.

After that in second line Variable ‘C’ assigned a value ‘30’. So the value c will be 30 and

Var C as been declared in the third line that will be ignored.

In Fourth line the output of this ‘console.log(c);’ is 30.

In Fifth line the ‘C’ as multiplied with 2. Now the ‘C’ value turns to 60.

In Sixth line the Output of this ‘console.log(c);’ is 60.

**4.var d;**

**console.log(d);**

**d = 50;**

**console.log(d);**

**d = d + 10;**

**console.log(d);**

**var d = 100;**

**console.log(d);**

|  |  |
| --- | --- |
| **Memory Phase** | **Execution Phase** |
| Var d = Undefined;  Var d = 50;  Var d = 60;  Var d = 100; | var d;  console.log(d);  d = 50;  console.log(d);  d = d + 10;  console.log(d);  var d = 100;  console.log(d); |

**Output**

Undefined

50

60

100

**Explanation**

Initially the var d will be ‘undefined’. In the second line the output will be printed as undefined.

In third line d got assigned a value 50. Now the value d = 50;

In Fourth line the output of this ‘console.log(d);’ is 50.

In Fifth line the d got added with a value 10. Now the value of d = 60;

In Sixth line the output of this ‘console.log(d);’ is 60.

In Seventh line again the ‘d’ got reassigned with a value 100. Now the value of d is 100.

In Eight line the output of this ‘console.log(d);’ is 100.

**5.var e = 1;**

**console.log(e);**

**e = e + 1;**

**console.log(e);**

**var e = 10;**

**console.log(e);**

**e = e \* 2;**

**console.log(e);**

|  |  |
| --- | --- |
| **Memory Phase** | **Execution Phase** |
| Var e = Undefined;  Var e = 1;  Var e = 2;  Var e = 10;  Var e = 20; | var e = 1;  console.log(e);  e = e + 1;  console.log(e);  var e = 10;  console.log(e);  e = e \* 2;  console.log(e); |

**Output**

1

2

10

20

**Explanation**

Initially the var e will be ‘undefined’, but ‘e’ got assigned with a value 1. Now the value of e is 1.

In Second line the output of this ‘console.log(e);’ is 1.

In Third line the e got added with a value 1. Now the value of e is 2.

In Fourth line the output of this ‘console.log(e);’ is 2.

In Fifth line the variable ‘e’ has been reassigned with a value 10. Now the value of e is 10.

In Sixth line the output of this ‘console.log(e);’ is 10.

In Seventh line the e value got multiplied with 2. Now the value of variable e is 20.

In Eight line the output of this ‘console.log(e);’ is 20.