

JS - Level 3 - Difficult

Find the output of the following code snippets, provide explanation supporting your answer.

Snippet 1

```
var x = 1;
function foo() {
  console.log(x);
  var x = 2;
}
foo();
```

Snippet 2

```
console.log(1 + 2 + "3");
console.log("1" + 2 + 3);
```

Snippet 3

```
var x = 10;
function foo() {
  console.log(x);
}
function bar() {
  var x = 20;
  foo();
}
bar();
```

Snippet 4

```
var x = [1, 2, 3];
x[10] = 10;
console.log(x);
```

Snippet 5

```
console.log(1 + '2' + '2');  
console.log(1 + +'2' + '2');  
console.log(1 + -'1' + '2');  
console.log(+ '1' + '1' + '2');  
console.log('A' - 'B' + '2');  
console.log('A' - 'B' + 2);
```

Snippet 6

```
var x = 1;  
function foo() {  
  x = 2;  
  console.log(x);  
}  
foo();  
console.log(x);
```

Snippet 7

```
console.log((function f(n) { return ((n > 1) ? n * f(n-1) : n) })(10));
```

Snippet 8

```
for (var i = 0; i < 5; i++) {  
  setTimeout(function() {  
    console.log(i);  
  }, i * 1000);  
}
```

Snippet 9

```
function foo() {  
  return  
  {  
    message: "Hello"  
  };  
}  
console.log(foo());
```

Snippet 10

```
var x = 1;
var y = 2;
(function(x, y) {
  x = x + y;
  y = x - y;
  x = x - y;
})(x, y);
console.log(x, y);
```