

# 20191227 電機一 47 號吳小花 js 找前三名及飛機航班追蹤

## (一)js 找前三名 C01.HTM

The screenshot shows a web browser window on the left and a code editor on the right. The browser displays the output of the JavaScript code: an array `a[]` with values `63,54,23,78,99,10,65,78`, the maximum value `aMax=99`, and the index `iaMax=4`. After splicing, the array becomes `63,54,23,10,65,78`, `aMax=78`, and `iaMax=3`. After another splice, the array is `63,54,23,10,65`, `aMax=78`, and `iaMax=5`. Finally, the top three elements are listed in `rank[]` as `99,78,78`.

```
<script>
var a =[63,54,23,78,99,10];
var rank=[];
a.push(65);a.push(78);
document.writeln("a []="+a);
sort();
document.writeln("<hr>rank []="+rank);

function sort(){
rank.length=0;
for (i=1;i<=3;i++){
var aMax=Math.max(...a);
document.writeln("<br>aMax="+aMax);
var iaMax=a.indexOf(aMax);
document.writeln("<br>iaMax="+iaMax);
rank.push(a[iaMax]);
a.splice(iaMax,1);
document.writeln("<br>after splice a []="+a);
}
}
```

## (二)js 飛機航班追蹤 C02.HTM

The screenshot shows a web browser window on the left and a code editor on the right. The browser displays the results of a simulation: the index for the value 747 is `8768`, the value is `b[result]=747`, and the time taken to find it 2500 times is `0.026秒`.

```
<script>
var start,end;
var b=[];
for (i=0;i<20000;i++) b.push(rand(30000));
start=new Date();
var result;
for (i=0;i<2500;i++) result=b.indexOf(747);
end=new Date();
document.write("747的索引="+result + " <br> b[result]="+b[result] + "<br>");

var dt=(end-start)/1000;
document.write("找2500次747花的時間="+ dt + "秒 <br>");

function rand(r){
var x=Math.random()*r;
var y=parseInt(x);
while (b.indexOf(y) >=0) {
x=Math.random()*r;
y=parseInt(x);
}
return y;
}
</script>
```