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APCS Principles, Period 1

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### Warm Up 1211: Sorting

```
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// WarmUp 1211 Insertion Sort

// This is a comment

// The setup function function is called once when your program
begins

var list = [];

function setup() {

  var cnv = createCanvas(800, 800);

  cnv.position((windowWidth-width)/2, 30);

  background(5, 5, 5);

  fill(200, 30, 150);

  loadNumbers();

}

// The draw function is called @ 30 fps

function draw() {

}
```

```
function loadNumbers(){  
    for(var x = 0; x < 11; x++){ //loads list with random integers  
from 1 to 100  
        list[x] = Math.floor(random(1, 100));  
    }  
}
```

```
function mySort(list){  
    for (var i = 1; i < list.length; i++){  
        for (var j = i; j > 0; j--){  
            if (list[j] < list[j-1]) { // if the current  
value is less, swap  
                swap(list, j , j-1);  
            }  
        }  
    }  
    console.log(list);  
}
```

```
function logNumber(){  
    console.log(list);  
}
```

```
function findAvg(list){  
    var avg;  
    var sum = 0;  
    for (var i = 1; i < list.length; i++){  
        sum = sum + list[i];  
    }  
    avg = Math.floor(int(sum/list.length));  
    console.log(avg);  
}  
  
function findMedian(list){  
    if(list.length % 2 === 0){ //if the array is even  
        var half = list.length / 2;  
        var twoMedian = list[half] + list[half+1];  
        var medianEven = twoMedian/2;  
        console.log(medianEven);  
    }  
    else if(list.length % 2 === 1){//is the array is odd  
        var half = (list.length /2) -0.5;  
        var medianOdd = list[half];  
        console.log(medianOdd);  
    }  
}
```

```
function swap(list, a, b){ //swapping code  
    var temp = list[a];  
    list[a] = list[b];  
    list[b] = temp;  
}
```