

```
function sum(a) {  
  var sum = a[0];  
  for(var i = 0; i < a.length; i++) {  
    sum += a[i];  
  }  
  return sum;  
}
```

The above program to compute the sum of a list of numbers is incorrect. Why?

Correct the above program such that it works correctly.

```
function mystery(a) {  
  if(a.length == 1) return a[0];  
  var foo = mystery(a.slice(1, a.length))  
  if(foo > a[0]) return foo;  
  else return a[0];  
}
```

What does the above program do?

Implement a binary search function that, given a sorted list and an element to look for, returns the index of the element in the list or -1 if the element is not there.

```
function binarySearch(list, element) {
```

```
}
```