

Quicksort

R1.2/R1.3

heap
memory

Lis:{2}

stack
memory

New array()

main

← top

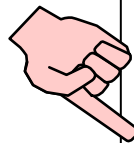
```
Function quicksort(array) {  
  If(array.length<=0) return[]  
    var less=[];  
    var greater=[];  
    var equal=[]  
    var pivot=array[0];  
    for(var i=0;i<array.length;i+  
      +)  
      if(pivot>array[i])  
        less.push(array[i]);  
      if(pivot==array[i])  
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    }  
    Return quicksort(less).concat  
      (equal,quicksort(greater));  
}  
Var lis=new array(2);  
  
Console.log(quicksort(lis));
```

heap
memory

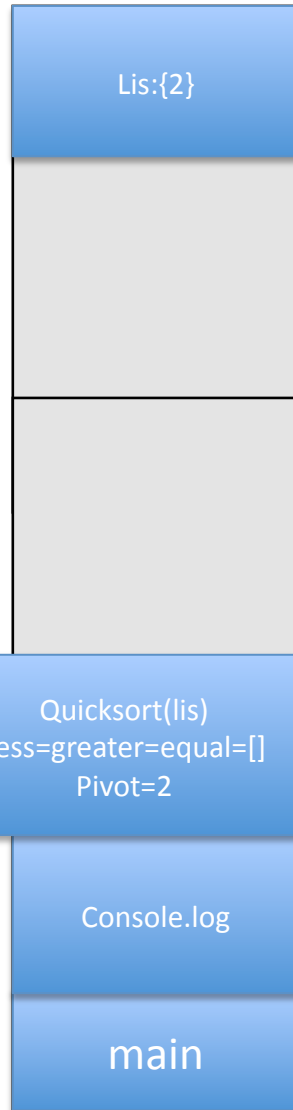


stack
memory

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heap
memory

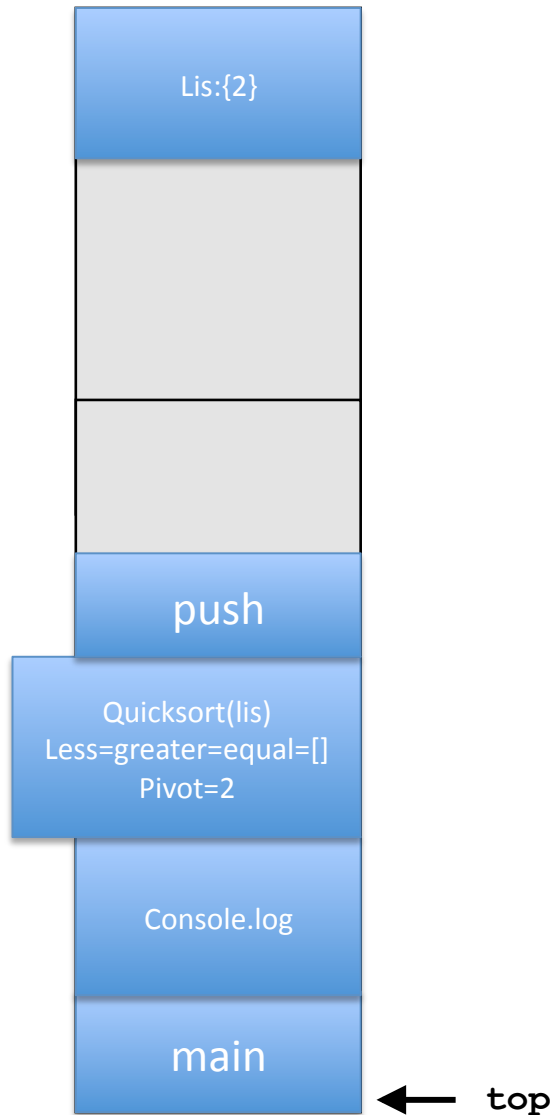


stack
memory

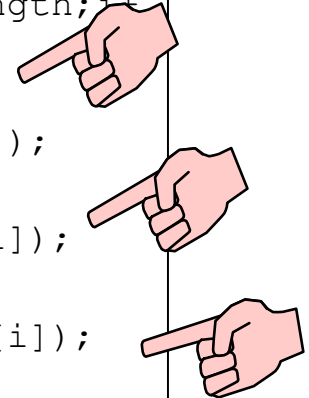


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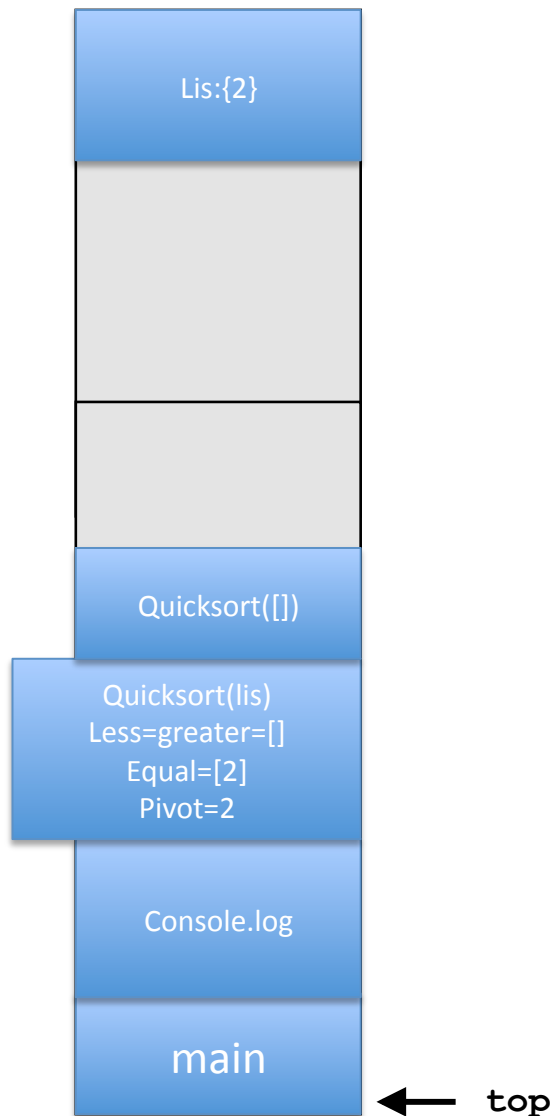
heap
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heap
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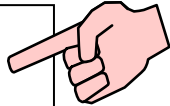
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heap
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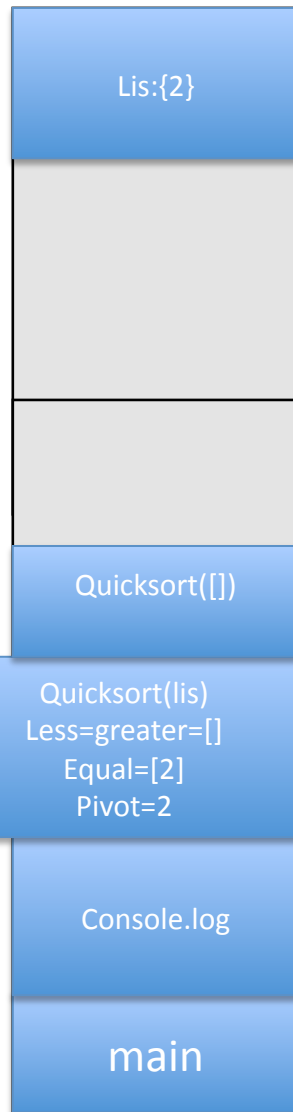
stack
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← top



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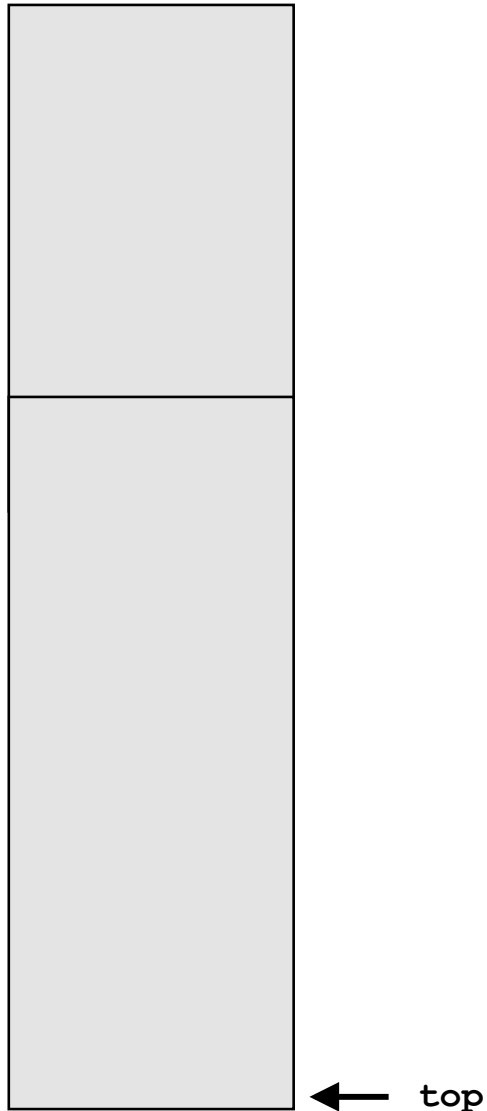
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Conclusion R1.3

- I did not need any modifications to the current stack and heap model to show how recursion works with javascript functions.
- Modifications to simplify the model would be greatly appreciated however, as this example used a lot of slide for such a simple case, The function works for much larger cases but the provided model is a bit too detailed for anything much larger than this.