1: Python program. Bináris keresés és beszúró rendezés Python-ban

```
def binary search(arr, val, start, end):
         if start == end:
            if arr[start] > val:
               \mathbf{return} \ \mathbf{start}
 5
            else:
               return start+1
         elif start > end:
            return start
 9
         else:
            mid = (start+end)/2
            if arr[mid] < val:</pre>
               return binary_search(arr, val, mid+1, end)
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            elif arr[mid] > val:
               \textbf{return} \hspace{0.2cm} \texttt{binary\_search} \hspace{0.1cm} (\hspace{0.1cm} \texttt{arr} \hspace{0.1cm}, \hspace{0.1cm} \texttt{val} \hspace{0.1cm}, \hspace{0.1cm} \texttt{start} \hspace{0.1cm}, \hspace{0.1cm} \texttt{mid} \hspace{-0.1cm} -\hspace{-0.1cm} 1)
            \mathbf{else}: \ \# \ \mathit{arr[mid]} \ = \ \mathit{val}
               return mid
17
     def insertion_sort(arr):
            for i in xrange(1, len(arr)):
                   val = arr[i]
                   j = binary_size arch(arr, val, 0, i-1)
21
                   arr = arr[:j] + [val] + arr[j:i] + arr[i+1:]
            \mathbf{return} \ \mathrm{arr}
```