27.03.2020

4. Merge Sort

Write pseudo code for merge sort algorithm. Show how merge sort is done in the array [14, 7, 3, 12, 9, 11, 6, 2, 15]

Pseudocode:

```
procedure mergesort( A[], left, right)
if (left==right) return;
else:
   mid = (left+right)/2
   mergesort (A, left, mid)
   mergesort (A, mid+1, right)
   merge (A, left, mid, right)
procedure merge (A[], left, mid, right)
   j=0
   l = left
   u = mid+1
```

```
while (l < mid+1 and u < right+1):
    if A[l] < A[u]:
        B[j] = A[l]
        l = l+1
        j = j+1
    else:
        B[j] = A[u]
        l = l+1
        j = j+1
while (l < mid+1):
    B[j++] = A[l++]
while (u < right+1)
    B[j++] = A[u++]
l = left
for j = 0 to u-1:
    A[l++] = B[j]
```