Big O notation

**Searcher**

O (searcher) = 3+1(1)+1(1)+1(1)+ 1(1)+1(1)+1(1)+1(4)+1(1)+1(1+n(1+1+1)+1)+1(3+log n(1+1+1+1+1+1+1)+1

= 14+ 1(2+3n)+1(4+7log n)

=20+3n+7logn

Change all constants to zero = 0+3n+7log n

Change all coefficients to 1 = 0+n+log n

Choose the biggest term = log n

Find the big O of the biggest term = O(log n)

= Logarithmic

**Sorter**

0 (sorter) = O (log n)

= Logarithmic

**Main**

O (main) = 1(1+2+10+log n(2+(1)+2(11)))

= 1(13 + log n (25))

= 13 + 25 log n

Change all constants to zero = 0 + 25 log n

Change all coefficients to 1 = 0 + log n

Choose the biggest term = log n

Find the big O of the biggest term = O (log n)

= Logarithmic