

# Assignment #3

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Q1

Nugget Box (n)

condition = false

if (n < 1)

return false

If ((n % 6 == 0) || (n % 9 == 0) ||  
n % 20 == 0)

Console.WriteLine (n)

return true

If (condition == false and n > 20)

condition = NuggetBox (n-20)

If (condition == true)

Console.WriteLine (20)

If (condition == false) and (n > 9 and n < 20)

condition = NuggetBox (n-9)

If (condition == true)

Console.WriteLine (9)

If (condition == false and (n > 6 and n < 9))

Console.WriteLine (6)

return condition



Q2

a) already solved in question  
 $\log_2(4096) = 12$

b) let array  $a[4096]$ ;  
 $a = 10$ ,  $b = 11$ ,  $inc = 0$   
for ( $i = 0$ ;  $i < a.length$ ;  $i++$ ) {  
    if ( $i == a$ )  
        {  $a[i] = 'A'$ ;  
           $a++ = 10$ ; }  
    if ( $i == b$ ) {  
         $a[i] = 'B'$ ;  
         $b++ = 10$ ; }  
    ~~if ( $i == inc$ )~~ else {  
         $a[i] = inc$ ;  
         $inc++$ ; }  
}

c) Radix Sort applied

d) while (LSD reached)  
    repeat step 'c'

e) Print ("Sorted");