

1.) a.) $64 \cdot 13$

function(64, 13)
↓
function(32, 26)
↓
function(16, 52)
↓
function(8, 104)
↓
function(4, 208)
↓
function(2, 416)
↓
function(1, 832)
↳ $n=1$ return 832

b.) $60 \cdot 13$

function(60, 13)
↓
function(30, 26)
↓
function(15, 52)
↓
 $52 + \text{function}(7, 104) \rightarrow$ return 780
↓
 $104 + \text{function}(3, 208) \rightarrow 104 + 624 = 728$
↓
 $208 + \text{function}(1, 416) \rightarrow$ return 624
↳ $n=1$ return 416

c.) $59 \cdot 13$

function(59, 13)
↓
 $13 + \text{function}(29, 26) \rightarrow 13 + 754 = 767$
↓
 $26 + \text{function}(14, 52) \rightarrow 26 + 728 = 754$
↓
function(7, 104)
↓
 $104 + \text{function}(3, 208) \rightarrow 104 + 624 = 728$
↓
 $208 + \text{function}(1, 416) \rightarrow 208 + 416 = 624$
↳ $n=1$ return 416

2.) $A = [100, 213, 65, 29, 153, 199, 47, 181, 85]$

function(A, 0, 8):

$p = A[\text{left}] = A[0] = 100$

$s = 0$

for i in range(0+1, 8+1):

$i=1 \rightarrow A[1] = 213 > p=100 \quad L=0 \quad R=8 \quad s=0 \quad \text{NO SWAP}$

$i=2 \rightarrow A[2] = 65 < p=100 \quad L=0 \quad R=8 \quad s=0+1=1$

$\text{Swap}(arr, 1, 2) \quad [100, 65, 213, 29, 153, 199, 47, 181, 85]$

$i=3 \rightarrow A[3] = 29 < p=100 \quad L=0 \quad R=0 \quad s=1+1=2$

$\text{Swap}(A, 2, 3) \rightarrow [100, 65, 29, 213, 153, 199, 47, 181, 85]$

$i=4 \rightarrow A[4] = 153 > p=100 \quad L=0 \quad R=8 \quad s=2 \quad \text{NO SWAP}$

$i=5 \rightarrow A[5] = 199 > p=100 \quad L=0 \quad R=8 \quad s=2 \quad \text{NO SWAP}$

$i=6 \rightarrow A[6] = 47 < p=100 \quad L=0 \quad R=8 \quad s=2+1=3$

$\text{Swap}(A, 3, 6) \rightarrow [100, 65, 29, 47, 153, 199, 213, 181, 85]$

$i=7 \rightarrow A[7] = 181 > p=100 \quad L=0 \quad R=8 \quad s=3 \quad \text{NO SWAP}$

$i=8 \rightarrow A[8] = 85 < p=100 \quad L=0 \quad R=8 \quad s=3+1=4$

$\text{Swap}(A, 4, 8) \rightarrow [100, 65, 29, 47, 85, 199, 213, 181, 153]$

$i=9 \rightarrow \text{stop loop} \quad L=0, R=8, s=4 \quad \text{NO SWAP}$

$\text{Swap}(A, 0, 4) \rightarrow [85, 65, 29, 47, 100, 199, 213, 181, 153]$

return $s=4$