

$\rightarrow \text{BUSCAR} = 37$

$\log_2(17) = 4 \text{ integers} //$

low = 0 ; high = 16

Intento 1º

$$\text{mid} = (0 + 16) / 2 = 8$$

quiz-23

c)  $23 \equiv 37 \pmod{N}$  No

23 737? No

$23 > 37?$  No  
 $23 < 37? \rightarrow \text{Si} \rightarrow \text{low} = \text{mid} + 1 \rightarrow \underline{\text{low}} = 8 + 1 = 9$   
 indices [9-16]

$23 < 37? \rightarrow S1 \rightarrow low$

$$C_0[29, 31, 37, 41, 43, 47, 53, 59]$$

- intento 2 :

$$\text{mod} = (9 + 16) / 2 = 12$$

guess = 49

guess = 41  
 ( ) 41 == 37? NO ; 41 > 37? S:  $\rightarrow$  high = mid - 1 =  $\frac{0}{2}$   
 indices [9 - 11]

(c)  $41 == 37$ ? No;  $41 > 37$ ; 5  
Sub-Array a consisting of indices [9 - 11]  
↓                  ↓  
Low              High

$\rightarrow [29, 31, 37]$

- intento 3º

- $\text{intcnt} = 3$   
 $\text{mid} = (9 + 11) / 2 = 10$

gains = 31

$\text{mid} = (9+11)/2 = 10$

$\text{guess} = 31$

( )  $31 == 37?$  NO;  $31 > 37?$  NO;  $31 < 37?$  YES  $\rightarrow \text{low} = \text{mid}$

Search Array & consider array [11-11]

$\downarrow$        $\downarrow$

Low    High

$\therefore$  Sub-Array a consider  $[11 - 11]$   
low High

↳ [37]

- intento 4:

- attempt 4:  
 $mid = (11 + 11) / 2 = 11$

guess = 37

guess = 37  
 $37 = 37 \checkmark$  Si "FIN"