Obs-1

If the remainder repeats it means we have got a sub-array whose sum is divisible by n

eg 10 14 | 6 n = 7

sum	Rem	
0		(14)
10	3	] 24 - 10 = 14
24	3	
25	4	(14, 1, 6)
31	3	] 31 - 10 = 21
		31 - 24 = 7
		(1, 6)

Obs-2. We don't need to keep track of total, tracking remainder is sufficient

eg 10 14 1 6 n = 7

sum	Rem
0	
(0+10)%7	3
(3+14)%7	3
(3+1)%7	4
(4+6)%7	3

as you can observe we get the same remainders

Obs-3 For negative values the remainder should be on left of number line

Eg 5 -65 -67 -67

$n = 4$

normal remainder

$(x + v)\% n$

map.

$0 \to 2$

$1 \to 1$

$-3 \to 1$

$-2 \to 1$

0

$(0 + 5)\% 4 = 1$

$(1 - 65)\% 4 = 0$

$(0 - 67)\% 4 = -3$

ans = 1

$(-3-67)\%4 = -2$

here we only considered -60 and skipped on $-65-67 = -132$

left side remainder

$((x+v)\%n + n)\%n$

5 -65 -67 -67

-60 -132

0

$((0+5)\%4+4)\%4 = 1$ $\quad 0 \to 2$

$((1-65)\%4+4)\%4 = 0$ $\quad 1 \to 2$, $2 \to 1$

$((0-67)\%4+4)\%4 = 1$

$((1-67)\%4+4)\%4 = 2$

$\therefore ans = 2$