

* Insert an element in given position in array

① array [4] \rightarrow elements of array
 $a[0] = 1$, $a[1] = 2$, $a[2] = 3$, $a[3] = 4$

② for ($i = N-1$; $i \geq \text{position} - 1$; $i--$)

array $[i+1] = \text{array}[i]$

position = 2, User Value = 7

First iteration

$i = N-1 \rightarrow i$ will initialize to 3
 $i = 3 \rightarrow \text{position} = 2$

So in loop ($i \geq \text{position} - 1$) $\rightarrow 3$ larger 1

array $[i+1] = \text{array}[i]$
array $[3+1] = \text{array}[3]$
array $[4] = \text{array}[3] = 4$ (value of $a[3]$)

Second iteration

In loop $i \rightarrow$ decrement operation
after ~~increment~~ decrement operation

$i = 2$; position = 2

($i \geq \text{position} - 1$) $\rightarrow 2$ larger 1

array $[i+1] = \text{array}[i]$

array $[2+1] = \text{array}[2]$

array $[3] = 3$ (value of $a[2]$)

Third iteration

In loop $i \rightarrow$ decrement operation

$i = 1$, position = 2

($i \geq \text{position} - 1$) $\rightarrow 1$ is equal 1

array $[2] = 2$

array [4] = [1, 2, 2, 3, 4]

↓
insert new element at position - 2
(User Value = 71)

↓
array [position - 1] = Value
array [2 - 1] = 71

↓
for loop
for (i = 0; i <= N; i++)
{
 printf ("%d\t", array[i])
}

~~10, 20, 30, 40, 50~~
~~10, 20, 30, 40, 50~~
it display the Values in the
array [i] using printf Statement