

• Algorithm to Add Large Numbers Using Arrays

1. Define n, m as maximum number of digits in the numbers a, b
2. Define array of size $a[m], b[n]$
3. For($i=0$ to m)
 - a. Read ($a[i]$)
4. For($j=0$ to n)
 - a. Read ($b[j]$)
5. Carry = 0; $k=0$; $i=j=0$
6. While($i<m$)&&($j<n$)
 - a. if ($a[i]+b[j]+carry \geq 10$)
 - $c[k] = (a[i] + b[j] + carry) \% 10$
 - $carry = 1$
 - else
 - $c[k] = (a[i] + b[j] + carry) \% 10$
 - $carry = 0$
 - b. $i++$; $j++$; $k++$
7. if($i<m$) /* First not ended
 - while($i<m$)
 - i. if($a[i]+carry \geq 10$)
 1. $c[k] = (a[i] + carry) \% 10$
 2. $carry = 1$
 - ii. else
 1. $c[k] = a[i] + carry$
 2. $carry = 0$
 - $i++$; $k++$
- if($j<n$) /* 2nd not ended
 - while($j \leq n$)
 - i. if($b[j]+carry \geq 10$)
 1. $c[k] = (b[j] + carry) \% 10$
 2. $carry = 1$
 - ii. else
 1. $c[k] = b[j] + carry$
 2. $carry = 0$
 - $j++$; $k++$
- if($carry$)
 - $c[k] = 1$