## $And rew\ Sivaprakasam\ |\ Warm\ - Up\ 1\ Write\ - up$ $Git Hub\ Repo:\ https://github.com/sivaprakasaman/Numerical\_Methods\_BME/$

## 1 Divide-and-Conquer for Integer Multiplication

## 2 Sorting Algorithms

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Bubble Sort: Typset Algorithm. Worst/Average Case = O(n^2), Best Case = O(n)

function bubblesort(a[1,...,l])

input: An unsorted array, a

output: The sorted array

while not swanned do
```

```
while not swapped do
\begin{vmatrix} \text{swapped = false;} \\ \text{for } i \leftarrow 1 \text{ to } l\text{-}1 \text{ do} \end{vmatrix}
\begin{vmatrix} \text{if } a[i-1] > a[i] \text{ then} \\ | \text{swap}(a[i-1], a[i]); \\ | \text{swapped = true;} \end{vmatrix}
\begin{vmatrix} \text{end} \\ \text{end} \end{vmatrix}
```