

# Growable Buffer

initial panel 1024, x8 resize once



- `GrowableBuffer<T>` in pure C++ filled with 1,000,000,000 items:
  - `empty()`: allocated uninitialised memory
  - `zeros()`: default zero initialised memory
  - `full(value)`: a for loop to initialise allocated memory to a value
  - `arange()`: a for loop to initialise allocated memory to a for loop index
  - `append(datum)`: a for loop to copy data to an allocated memory
- Numpy array with 1,000,000,000 items created with: `np.empty`, `np.zeros`, `np.ones`, `np.arange`



