

Arkouda Unique Finding and Counting

mimics `np.unique` and `pd.value_counts`

Algorithm/Code Comments

- currently we use a sorting and scan-based algorithm
- is-sorted reduction/check to see if the data is already sorted
- the code uses some optimizations like aggregation
- chapel code in `src/Unique.chpl`

Unique finding on integers

`(u,c) = ak.unique(X,return_counts=True)`

i	0	1	2	3	4	5	6	7	8	9
X	1	2	5	5	1	5	2	5	3	1

sorted	1	1	1	2	2	3	5	5	5	5
truth = [i-1]!= [i]	t	f	f	t	f	t	t	f	f	f
iv = + scan truth	1	1	1	2	2	3	4	4	4	4
if truth then iv -1	0			1		2	3			
segments	0	3	5	6						
ukeys	1	2	3	5						
counts	3	2	1	4						

look at code now