

For help on classes: from ModuleName import *

```
>>> shelp(Tau)
```

Classic Tau rank correlation

Arguments:

variable: STARS variable
 interval: integer for length of time interval (default=1)
 w: STARS sparse weight matrix (optional)

Attributes:

concord: number of concordant pairs for each period
 discord: number of discordant pairs for each period
 T: number of unique pairs
 tau: tau statistic (concord/T) for each period

 (if w is specified)
 nContiguities: number of unique contiguous pairs
 contConcordCount: number of contiguous concordant pairs
 contTau: tau statistic for contiguous pairs
 nonContConcordCount: number of noncontiguous concordant pairs
 nonContTau: tau statistic for noncontiguous pairs

Example Usage:

```
>>> from stars import Project
>>> s=Project("s")
>>> s.ReadData("csiss")
>>> income=s.getVariable("pcincome")
>>> r=s.getVariable("bea")
>>> w=spRegionMatrix(r)
>>> taus=Tau(income,w=w)
>>> taus.tau[0]
0.6313405797101449
>>> taus.contTau[0]
0.6875
>>> taus.nonContTau[0]
0.6229166666666667
>>> tau=Tau(income,interval=10)
>>> tau.tau
array([ 0.55978261,  0.5923913 ,  0.60869565,  0.54076087,  0.55253623,  0.57880435,
        0.56612319,  0.58967391,  0.50724638,  0.59692029,  0.56431159,
        0.52083333,  0.52173913,  0.51449275,  0.42844203,  0.4692029 ,
        0.55615942,  0.47735507,  0.58152174,  0.5317029 ,  0.52626812,
        0.53713768,  0.48822464,  0.58423913,  0.57427536,  0.47101449,
        0.61865942,  0.5615942 ,  0.51539855,  0.5       ,  0.61956522,
        0.51539855,  0.53623188,  0.5923913 ,  0.5951087 ,  0.47373188,
        0.51539855,  0.51358696,  0.51811594,  0.39945652,  0.50996377,
        0.43387681,  0.49456522,  0.63677536,  0.49184783,  0.54981884,
        0.44384058,  0.53623188,  0.4701087 ,  0.52173913,  0.58423913,
        0.50362319,  0.44112319,  0.55706522,  0.48460145,  0.58695652,
        0.45742754,  0.48731884,  0.62228261,  0.48460145,  0.55253623,
        0.5       ])
```

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```
>>>
```