csc710sbse:hw3:VivekNair:vnair2 Page 1/2 Sep 16, 14 10:16 from __future__ import division import sys import random import math import numpy as np from models import * sys.dont_write_bytecode = True 10 #Dr.M def msecs(f): import time t1 = time.time()return (time.time() - t1) * 1000 class Utilities: def randR(self,lo,hi): return(lo+rand()*(hi-lo)) 20 def norm(self,x,lo,hi): "Generate a num 0..1 for lo..hi" tmp = (x - lo) / (hi - lo + 0.00001)return max(0,min(tmp,1))25 def say(self,x): "Print something with no trailing new line." sys.stdout.write(str(x)); sys.stdout.flush() 30 "Function to print floats in short form" fmt = '%.' + str(n) + 'f'return ', '.join([(fmt % x) for x in lst]) def logo(): / ARig \ 45 #Dr.M def msecs(f): import time t1 = time.time()return (time.time() - t1) * 1000 55 def pairs(lst): last=lst[0] for i in lst[1:]: yield last,i last = i 60 def xtile(lst,lo=0,hi=0.001,width=50, chops=[0.1 ,0.3,0.5,0.7,0.9], marks=["-","","-",""], bar="|",star="*",show="%3.0f"): 65 " " "The function _xtile_ takes a list of (possibly) unsorted numbers and presents them as a horizontal xtile chart (in ascii format). The default is a contracted _quintile_ that shows the 10,30,50,70,90 breaks in the data (but this can be changed- see the optional flags of the function).

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                 : return ordered[int(len(lst)*p)]
     def pos(p)
     def place(x) :
       return int(width*float((x - lo))/(hi - lo))
     def pretty(lst) :
       return ', '.join([show % x for x in lst])
     ordered = sorted(lst)
     10
           = min(lo,ordered[0])
            = max(hi,ordered[-1])
           = [pos(p) for p in chops]
     what
     where = [place(n) for n in what]
     out = [""] * width
     for one,two in pairs(where):
       for i in range(one,two):
         out[i] = marks[0]
       marks = marks[1:]
     out[int(width/2)]
     out[place(pos(0.5))] = star
     return ''.join(out) + "," + pretty(what)
```