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# Checkers.py
""" Looks at iteration in the context of drawing patterns.
In
this case, the pattern is a checkerboard."""

from SimpleGraphics import
*

def DrawRow(x0,y0,s,n,c1,c2):
    """ Draws a horizontal row of s-by-s
suqares. The
    center of the leftmost square is (x0,y0) and the
    first two leftmost
squares have colors c1 and c2
    respectively.

    PreC: x0, y0, and s are floats, n
is a positive integer, c1 and
    c2 are rgb arrays."""

    # (xc,yc) is
the center of the next square to draw.
    xc = x0
    yc = y0
    for k in range(n):

  # Draw the kth square
        if k%2==0:
           # The even-index squares have color
c1
           DrawRect(xc,yc,s,s,FillColor=c1,EdgeWidth=0)
        else:
           # The
odd-indexed squares have color c2
           DrawRect(xc,yc,s,s,FillColor=c2,EdgeWidth=0)

    # The next square is shifted s units to the right
        xc = xc+s

if __name__ ==
'__main__':
   """ Draws a checkerboard."""

   # The
checkerboard is n-by-n and the squares are s-by-s
   n = 8
   s = 1
   # The lower left
square has center at (x0,y0)
   x0 = -s*(n-1)/2.0
   y0 = -s*(n-1)/2.0
   # The checkerboard
colors are c1 and c2
   c1 = RED
   c2 = WHITE

MakeWindow((n+2)*s/2,bgcolor=BLACK,labels=True)
   # y is the vertical coordinate of the next
row to draw
   y = y0
   for k in range(n):
       # Draw the kth row
       if k%2==0:

         DrawRow(x0,y,s,n,c1,c2)
       else:
            DrawRow(x0,y,s,n,c2,c1)
       #
The next row is up s units
       y = y+s

   ShowWindow()
```