Dasar-Dasar Pemrograman 1
Programming Assignment 1

LAST DAY for uploading your Python program to SCeLE: Wed 25 Sept 2019 (11:55 PM).
Your submitted source code file should have a name with format:
`TP1_<your_name>_<NPM>_<KodeAsdos>.pyw`
What does the extension .pyw mean?
Please contact your TA (teaching assistant) for giving a demo of your work, as soon as possible.
The TA will give you a mark after the demo.
Please start working on this assignment immediately.

Task Description

Rotating Squares and Disks with Random Colors

Write a Python program that can also be run outside of IDE (Spyder, IDLE, etc): by doubleclicking on the program file icon or from the terminal (command prompt). The program draws two groups of colorful shapes. The first group consists of 72 squares, varying in size, color and orientation. The second group consists of 36 disks, varying in size, color and positions.

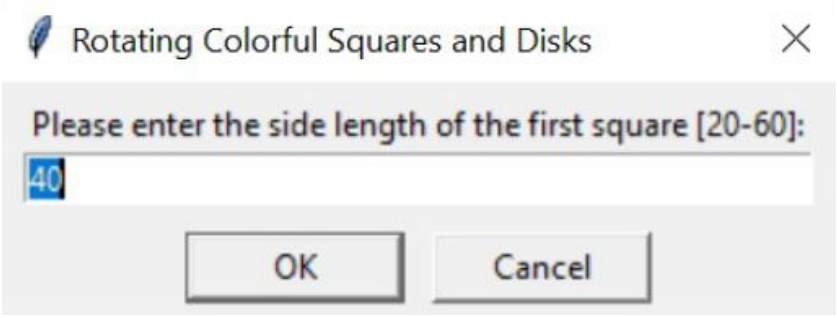
The algorithm:

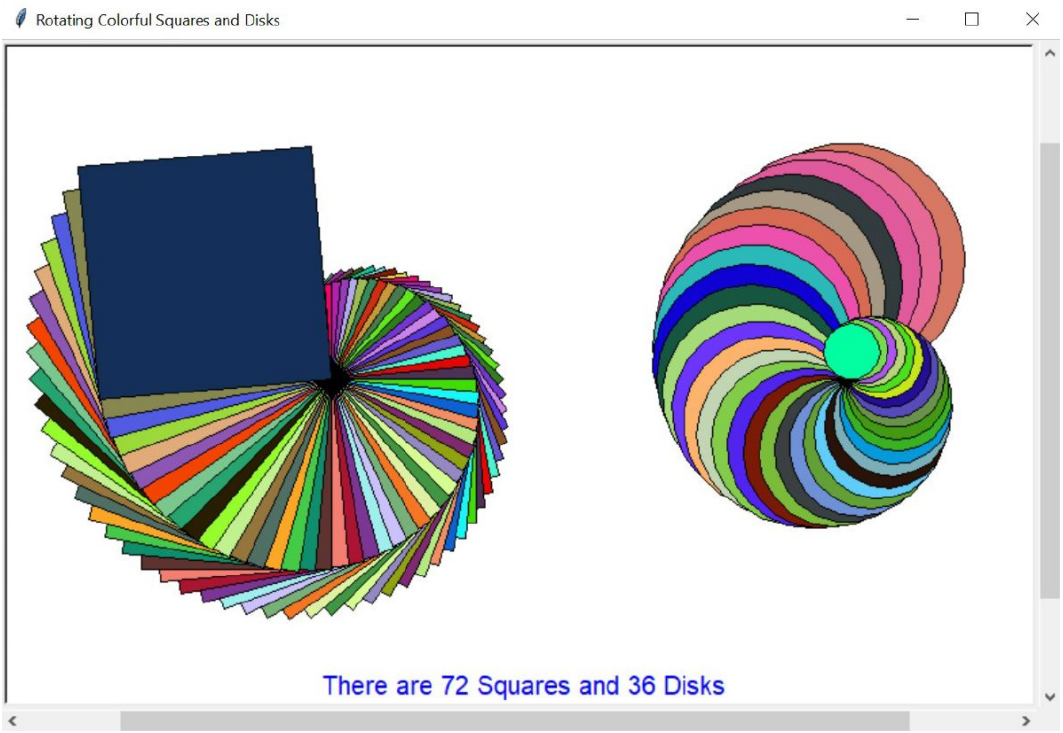
1. Your program has to interact with the user to ask for the side-length of the first square (an int), limited to between 20 and 60 (default 40). You can use the function numinput( ) from the turtle module.
2. Move the turtle some suitable distance to the left.
3. Draws 72 squares with random colors. A square is rotated right 5 degrees relative to the previous square and its side-length is incremented by 2 units relative to the side-length of the previous square.
4. Move the turtle some suitable distance to the right.
5. Draws 36 disks (filled circles) with random colors. The radius of the first circle is one half of the sidelength of the last square. A circle position or orientation is rotated left 10 degrees relative to the previous circle and its radius is decremented by 2 units relative to the radius of the previous circle.
6. The total number of shapes is displayed below the picture.

In order to generate a random color component (red, green, or blue), you can import the module **random** and use the function **randint( )**. You can use the color mode where the values of color go from 0 to 255. Of course you will need to use the for statement.

The following methods from the turtle module will be useful for this assignment:
`title( ), numinput( ), speed( ), up( ), goto( ), down( ), color( ), write( ), setheading( ), begin_fill( ), end_fill( ), forward( ), left( ), right( ), hideturtle( ), exitonclick( ), fillcolor( ), colormode( ), circle( )` etc.

Examples of program execution:





L. Y. Stefanus & The Asdos Team