**­CSC 1301 Fall 2022**

**Homework #04**

**Due 11/08/2022 11.59 pm**

**CS 1301 Program 4 – Graphics – HomeScape**

**Objective**: This assignment serves several important roles.

* It introduces you to the famous Turtle, which is a great way to learn a new language.
* It gives you experience with writing loops.
* It gives you experience with recursion.
* It gives you experience with complex objects that have both attributes and methods.
* It gives you experience with using asserts to enforce your preconditions.

Use turtle graphics to design a HomeScape, should have all the following requirements:

* Walls
* Roof
* Door
* 2-4 windows
* Flowers with different colors
* Clouds
* Grass

**Please note -** You will create and implement your own and additional exterior design(s) along with color schemes. Credit will be awarded based upon the overall requirements along with the creativity and user defined designs not mentioned above. I have provided several samples to assist you in achieving excellence.

### Programming Tips: -****Pseudo Code****

* Apply Function(s) as needed - Turtle
* draw\_window(x, y): (x, y passing location)
* Draw window without inner grid
* Draw inner grid of window
* Draw top and right-side wall of house
* Draw bottom and door of house
* Draw left wall and roof
* Draw\_window(x, y) – first location
* Draw\_window(x, y) – second location
* Draw\_window(x, y) – third location

Here is the helper code – see the zip folder

1) graphics\_housewindow

2) flower

**(You can use a transparent image as background)**

**Sample house below – starter code provided in the zip folder**

Shape

Description automatically generated

**If you use VScode, see an error with: ModuleNotFoundError: No module named '\_tkinter', please use this link as reference to solve the problem.**

[**https://www.youtube.com/watch?v=OSCzB3zg9A4**](https://www.youtube.com/watch?v=OSCzB3zg9A4)

**Sample Idea see links below**

[Link 1](https://www.bing.com/images/search?q=cartoon images free farmland and sun clouds &qs=n&form=QBIR&sp=-1&pq=cartoon images free farmland and sun clouds &sc=0-44&cvid=8F5B205FA3EF4B95AF661C4568E44DC7&ghsh=0&ghacc=0&first=1&tsc=ImageHoverTitle)

[Link 2](https://www.bing.com/images/search?q=cartoon images free farmland and sun clouds birds&qs=n&form=QBIR&sp=-1&pq=cartoon images free farmland and sun clouds birds&sc=0-49&cvid=AB20240C932E4C3CB38607CA4CFC6678&ghsh=0&ghacc=0&first=1&tsc=ImageHoverTitle)

My Final Sample – WOW!!!!!!!!!!!! A picture containing background pattern

Description automatically generated

Another Idea below

Graphical user interface, application

Description automatically generated

### Turning In the Assignment:

How to Submit:

The program should be in a file named HomeScape**.py**. Submit the file via I-college before the deadline shown at the top of this page. Submit it to the assignment **hw4** under the assignments sections by uploading your python file.

Running your file must bring up a window and render an image of the Panamanian Flag. It must also contain a header with the following format:

# Display introductory message-this should be something catchy and reflection of the design

# File: HomeScape.py

# Student:

#

# Course Name

#

# Date:

# Description of Program: