Nonlinear Analysis: Modelling and Control, Vol. vv, No. nn,
YYYY

Representation of perpetual motion of a point inside a square

camila rosales, luis pion carrillo, andr´es cervantes

Institution(s) of author(s), address(es) author@somewhere.host

Received: date / Revised: date / Publised online: data

Abstract

This project focuses on the creation of a class, in which a scene will be made of which we will have a design from which we will create and modify a graphic scene. It will result in a triangle with a 2D dimension in which points will be added to identify the important points according to the given color, generating a visual representation using python with the pygame and matplotlib libraries using the jupyter notobook tool to encode the entire file.

1 Introduction or the first section

Next in this scene we are going to implement the creation and manipulation of a graphic scene, using and implementing the python code in a chain of points, assuming it is a rectangle in which we can modify the supplied parameters.

2 objectives

develop some classes called scene that facilitate the creation and manipulation of graphics in Python.

define parameters such as sizes and color and add other objects such as points that overlap at the same time.

modify the characteristics of the escenas and visualize the product that represents the herramienta pr´actica for the applications of the data.

∗This research was supported by grant No. Xxxx

Conflicts of Interest. The authors declare no conflicts of interest.

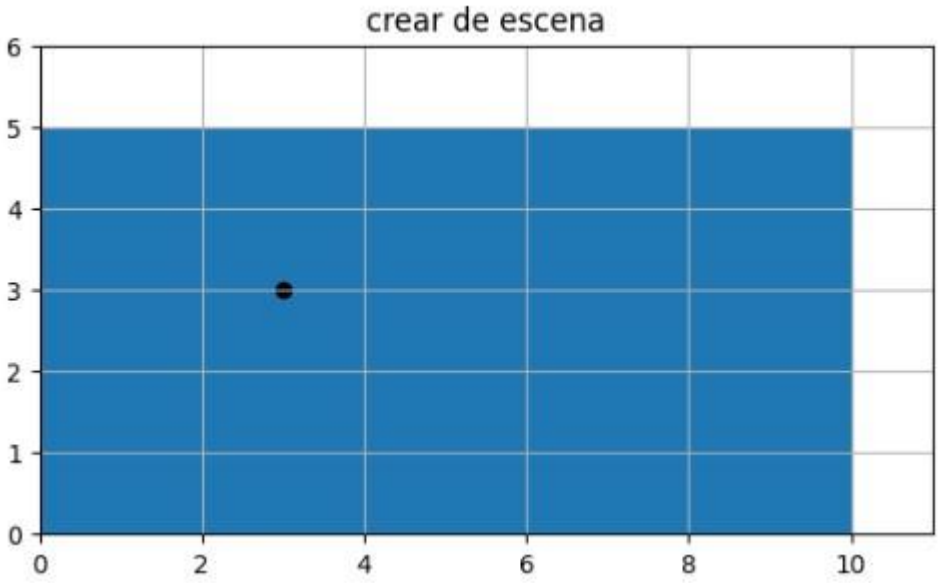
We would like to thank dr. N. Sergejeva for the excerpts of article [**?**].

3 graph and analysis

main scene

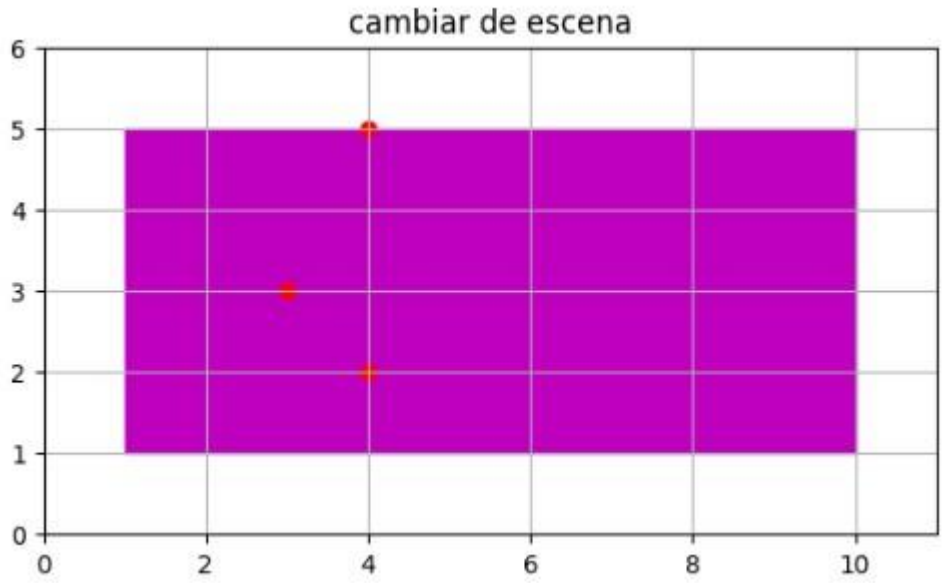
In the graph, the x and y axes are created with a point in the middle and a rectangle with vectors that gives us a scene to create the different scene changes required.

create scene



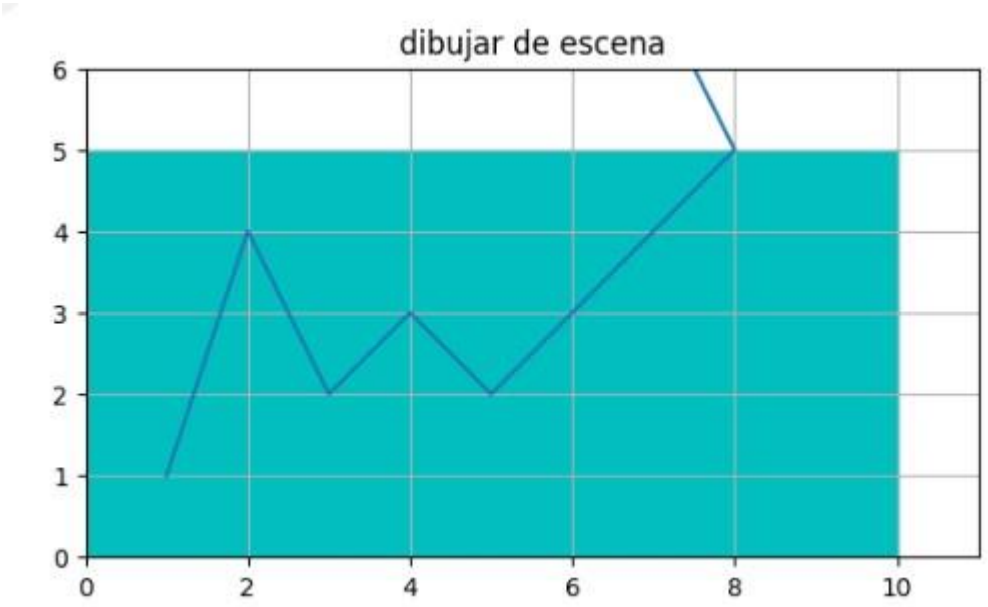
In this scene a rectangle with a point superimposed on it is created by means of a polygon.

change scene



The colors of the points and the rectangle are changed, n overlapping points are added by parameter and position.

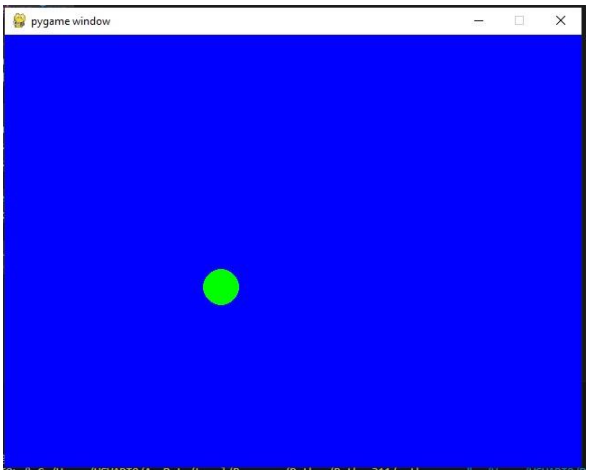
draw scene



A graphical representation is drawn in the scene, in this case a graphical representation with the coordinates, [1, 2, 3, 4, 5, 8, 6], [1, 4, 2, 3, 2, 5, 9]

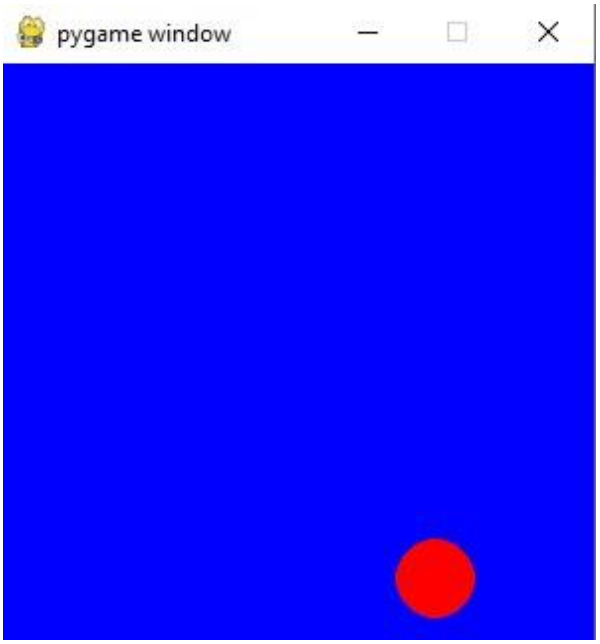
point shift

The point-by-parameter displacement scene is created using the pygame library. In this step the process will be displayed locally since Google CodeLab does not have the function or tool to display the animation, so it must be executed locally.



similar scene

In this scene the movement of a point is created by increasing the speed and direction of the point x, In this step the process will be displayed locally since Google CodeLab does not have the function or tool to display the animation, so it must be executed locally.



4 conclusion

You can see the results of the different scenes for a rectangle using vectors with the libraries, pygame and matplotlib in which they are used to create graphics and animations in python