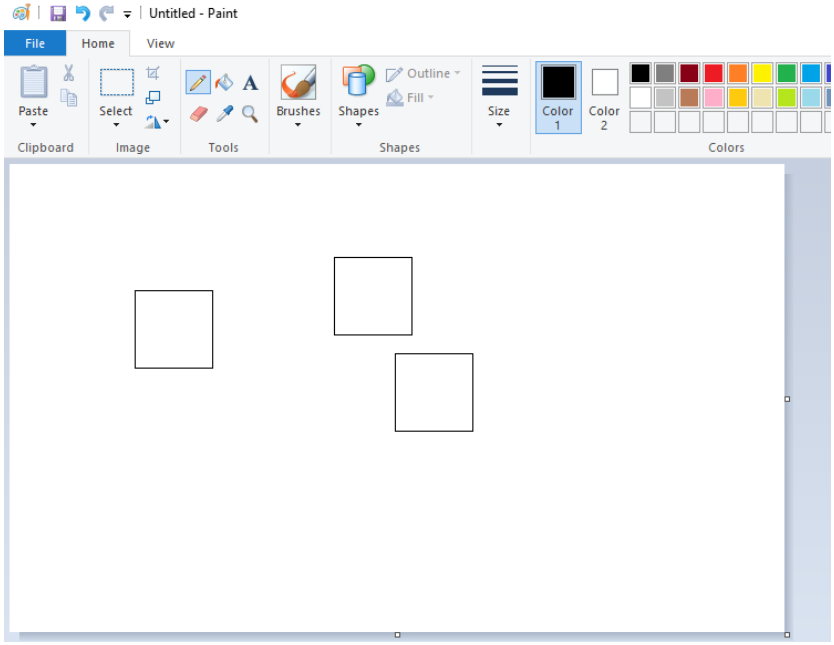
RPA Exercise – PyAutoGUI drawing

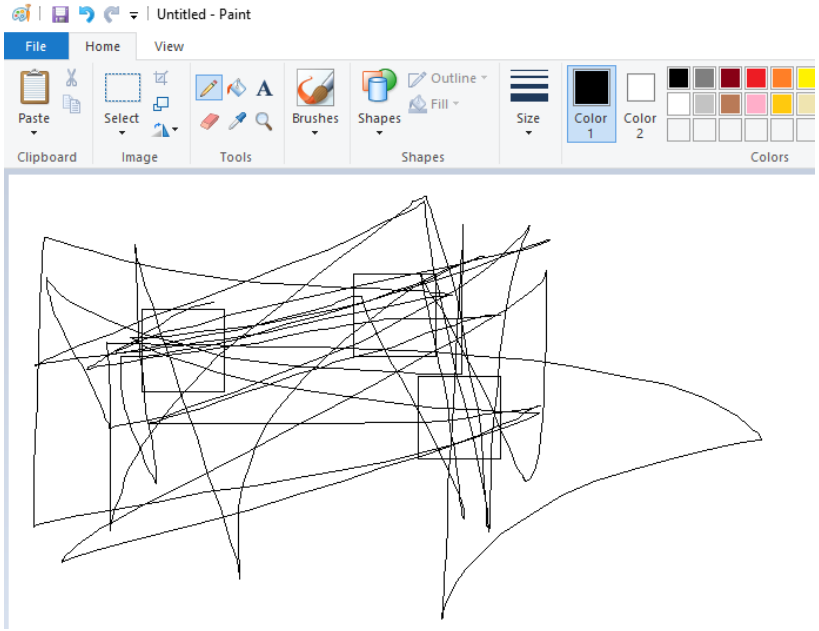
Write a python code using the library PyAutoGUI that completes the following steps:

1. Open Paint or similar drawing application with an empty canvas.
2. On the canvas draw randomly 2-5 squares so that they don't overlap each other.
    a. Pick number of squares to draw randomly at runtime between 2-5 and pick the position of each square randomly as long as they don't overlap each other.
    b. Size and appearance of each square should be identical.
    c. Example view after drawing:



3. Count the squares on the canvas BASED ON IMAGE RECOGNITION and make sure it always matches to how many were randomly selected to draw.
    a. This counting can assume the selected constant size and appearance of the drawn squares – i.e. compare the known pattern of a single square to the entire canvas view.
4. Draw something (anything with the drawing tools) more on the canvas so that the same piece of code that counted the squares in step 3, can find not a single square anymore.

a. Example view after drawing things on the squares:



5. Close the drawing program.

More instructions and hints

- Try to use PyAutoGUI (~= image recognition + mouse + keyboard) for all the steps from opening to closing the program even though there are other ways to make those things happen too.
- Try to base all (non-random) mouse movements on coordinates gotten from image recognition instead of hardcoded coordinates.
    - Remember that also keyboard shortcuts may be useful in certain steps of this automation exercise.
- Tune the “confidence” of image recognition and possibly remove overlapping matches to get the count of drawn squares recognized correctly.

Completion instructions

As a solution to this exercise combine your

- python code file(s)
- images used (which are referred to from your code)
- short video of a full run of your code
    - use e.g. OBS Studio to record the screen video

into a zipped (compressed) folder named e.g. “RPA exercise pyautogui <your last name here>.zip”.