Code Description

The program uses two classes: Agent and Target.

Class Agent has four parameters:
- x,y, position coordinates of the agent
- color, color of the agent
- count_iter, number of moves made by the agent

Class Agent has six functions:
get_x(),returns the *x* coordinate of the agent
get_y(),returns the *y* coordinate of the agent
put_x(x), assigns the *x* coordinate of the agent to the value of *x*
put_y(y), assigns the *y* coordinate of the agent to the value of *y*
move(), determine the new position of the agent
draw(), depicts the agent on the screen along with the radar

Class Target has four parameters:
- x,y, position coordinates of the target
- name, name color of the target
- color, color of the target

Class Agent has three functions:
get_x(),returns the *x* coordinate of the target
get_y(),returns the *y* coordinate of the target
draw(screen), draw the target

The program uses the following functions:

achievement_targets(): The function deletes the target if it falls into the scope of the agent's radar.

achievement_goal(): Depending on the selected script, the function checks the end of the program.

number_iterations(): The function counts the number of iterations for each agent.

channels(): The function exchanges messages between agents. These messages are public or private, depending on the scenario you select.

results_CSV_file(): The function writes results into two CSV files.

main(): The main function of the program.

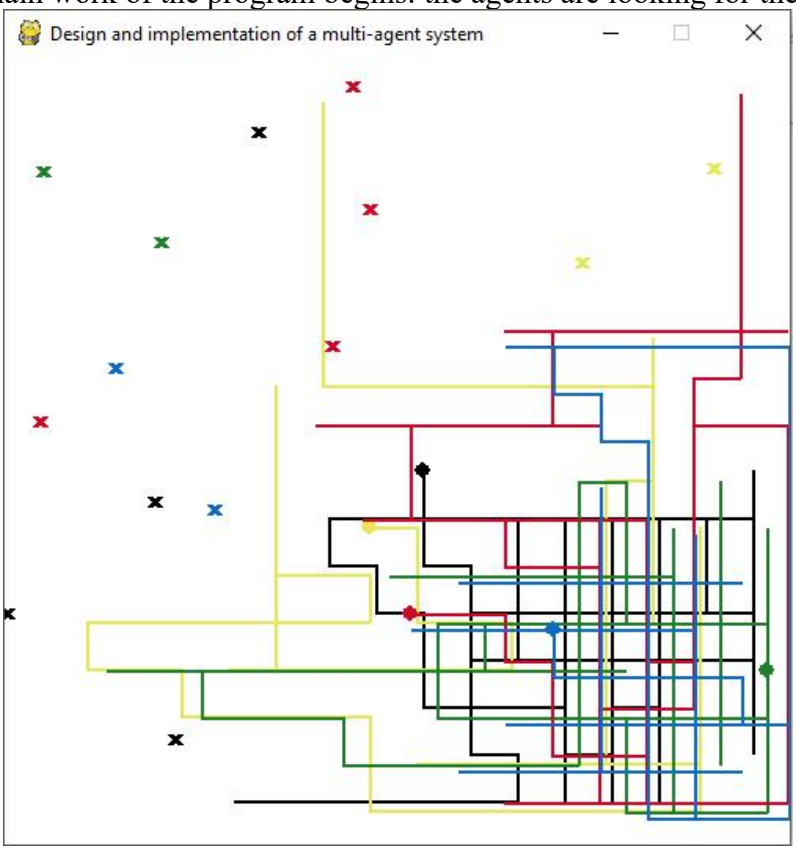
The work of the program is displayed as a graphic demonstration. To display the graphic, we use the module pygame. First, a list of agents and goals with random coordinates is formed. The program creates a game field of 500 by 500 pixels (we will enlarge all sizes 5 times for a better image).

There is an infinite loop, in which, during each iteration, the agents make random moves. The function move()checks the possible moves for each agents suitable for possible moves. During each iteration, the program end is checked.

Run the program

The program is run by the team python intelliAgent.py.
Then you need to choose one of three scenarios (1,2,3).

Then the main work of the program begins: the agents are looking for the goals.



The results of the program are recorded in two files G30_1.csv and G30_2.csv.