Team Vale Fina 007 (Michail Gemistos, Michail G. Lagoudakis) for the AiBirds Competition 2017
Using Reinforcement Learning (Qlearning) to solve the Angry Birds problem.

Q learning algorithm has a set of things to be defined(state,action,new state,features,weights).
Considering the above, certain classes and methods have been implemented.

Tree Class has the information of the state and the features. In order to describe the current state we implementes in list of nodes that contains information about every node currently in the scene the create_level_list method is responsible for that matter. A node contains information about the features we will use afterwards. When the state is extracted the pickAction method to decide the best Node available. The is accomplished from selectiong the Node with the highest Q value.
Q value is the sum of all the products of every weight and feature. Features are computed by the following methods

setNPdistance(pigs, TNT);//, sling, bird, limit, ourRoomNew);	Nearest Pig Distance
setAngle();	Angle of the object
setMinLitre();	The area of the object
setNRSDistance(rolling_stones);	Nearest Rolling Stone distance
setMassSupporting();	Weight it supports

setTrajectoryMeetsObjects(pigs,TNT,rolling_stones,objects,sling,bird,hills,room);
Utility of the trajectory after hitting an object supposing that no objects interfere.

setImpactFeature(bird);
The impact of a specified bird to a certain type of object

setPigsAboveAndRight(pigs);
Pigs above and Pigs right of that object

The weights are in the weights array at ClientAgent and are set to certain values based on the samples that we have collected.