|  |
| --- |
| **Point** |
| X : int - |
| Y : int - |
| + Point(x : int,y : int) : void |
| + get\_x() : int |
| + get\_y() : int |
| + Equal(x : int, y : int) : boolean |

|  |
| --- |
| **Robot** |
| Type : char - |
| Vec\_Messege : vector<Message> - |
| Battery : int - |
| Id : int - |
| Vec\_point : vector<point> - |
| - pointer : point |
| + Robot(Type : char, Vec\_Messege : vector<Message>,Battery : int, Id : int, Vec\_point : vector<point>, pointer : point) : void |
| + send\_messege() : void |
| + Recharge() : void |

|  |
| --- |
| **Air** |
| Robots : Robot[] (index key) - |
| Count\_robot : int - |
| + Air(robots : Robots[] (index key), Count\_robot : int , \_Arena : Arena) : void |
| Distance(p1 : point,p2 : point) : double + |

|  |
| --- |
| **Arena** |
| Robots : Robot[] (index key) - |
| Mat\_color : double - |
| Id\_place : string[][] - |
| Scater\_list : plt(GUI to create coordinate color) - |
| Robots\_Place : point[](index key) - |
| - Count\_Robots : int |
| + Arena(robots : Robot[] (index key),Image : matrix of pixel colors, Id\_place : string[][],Scater\_list : plt, Robots\_Place : point[],Count\_Robots : int) : void |
| + get\_robot\_place(id : string) : Point |
| + get\_neighbors(id : string) : String |
| + Move\_Robot(id : string, Side : String) : void |
| + Get\_All\_Points(id : string) : String |

|  |
| --- |
| **Messege** |
| Battery : int - |
| Sender\_id : string - |
| Time\_for\_send : datetime - |
| Messege\_id : int - |
| + Messege(Battery : int, Sender\_id : string, Time\_for\_send : dtaetime, Messege\_id : int) : void |
| + If\_get\_messege() : boolean |

|  |
| --- |
| **Simulator** |
| \_Arena : Arena - |
| \_Air : Air - |
| - |
| - |
| + Simulator(csv\_file : string) : void |
| + csv(csv\_file : string) : Robot[] (index key) |
| + Create\_ID\_PLACE\_In\_Matrix(csv\_file : string) : string[][] |
| + Create\_Robot\_Color\_In\_Matrix (Image : matrix of pixel colors,csv\_File : string) : void |