```
class Game
     + map : unordered map<string, Airport>
      + players : vector<Player>
     + NUM_OF_PLAYERS, PLANES_PER_PLAYER, MAX_TURNS : const int
     + turn location, turn num : int
     + Game(int = 4, int = 4, int = 200)
      + run_game() : void
      + new_game() :void
      + loop() : void
      + draw_takeoff() : Airport*
     + sync_boards() : void
      + roll(int = 2) : vector<Action>
                        class Player
 game : Game*
- plane_color : Color
- planes : vector<Airplane>
- BUMP_VALUE : int = 20
- finished : bool
- DEFUALT COLORS : const vector<string>
- get_all_permutations(vector<vector<typename It::value_type>>&, It,
It, int, vector<typename It::value_type> : void
- get all permutations no repeats(vector<vector<typename
It::value_type>>&, It, It, int, vector<typename It::value_type> : void
- expand wild permutation(vector<vector<Action*>>&, int) : void
- get_plane_score(Airplane*, bool) : float
decide_moves(vector<pair<Airplane*, Action*>>&, vector<Action>,
vector<Player>&) : void
+ Player(Game*, vector<Airplane>, Color)
+ take turn(vector<Action>, vector<Player>&) : void
+ sync_planes() : void
+ gather_planes(Airport*) : void
+ is_done() : bool const
+ get name() : string const
+ get_planes() : vector<Airplane>&
```

class Airplane

- location, shadow_location, start, end : Airport*
- owner : const Player*
- move(Airport*, bool) : bool
- jump(Airport*, bool) : bool
- move route(Color, bool) : bool
- identify_dest(Color, bool) : Aiport*
- get_occupancy_special(Airport*, bool) : vector<Airplane*>&
- get_location_speicla(bool) : Airport*&
- bumped(bool) : bool
- + Airplane(Airport*, Airport*, Airport*, const Player*)
- + Airplane(const Airplane&)
- + operator=(const Airplane&) : const Airplane&
- + do_action(Action, bool) : bool
- + check_bump(bool) : bool
- + sync() : void
- + get_loc_name(bool) : string
- + get_loc(bool) : Airport*
- + get_owner_ptr() : const Player*
- + set_owner_ptr(const Player*) : void

struct Airport

- + name : string
- + lat, lon : float
- + children, parents, : vector<pair<Airport*, Color>>
- + occupants, shadow_occupants : vector<Airplane*>
- + Airport(string = "", float = 0, float = 0)
- + connect(Airport*, Airport*, Color) : static void

struct Action

- + type : char
- + dest : Airport*
- + color : Color
- + Action()
- + Action(Airport*)
- + Action(Color)
- + operator==(const Action&) const : bool
 operator=(const Action&) : const Action&

struct Color

- + c : char
- + Color(string = "white")
- + operator==(const Color&) const : bool
 operator=(const Color&) : const Color&