FUNCTIONAL PROGRAMING - SCALA

BATTLESHIP

SUMMARY

a. Classic game rules

b. My version

c. Functions diagram

- Main game process
- Interactions
- Pretty parts

d. AI mode

GAME RULES

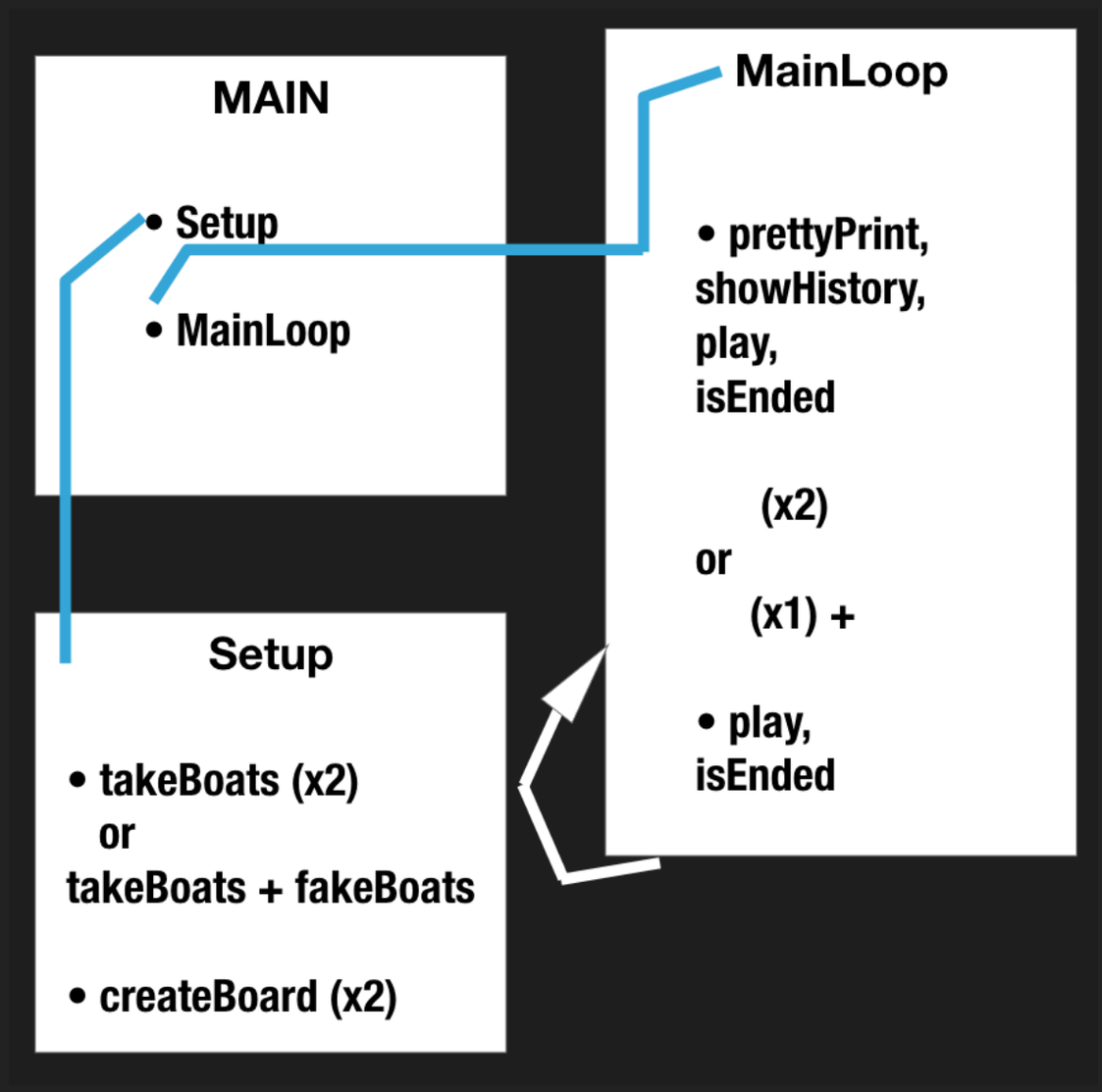
- 2 players 1v1
- 5 boats (17 points)
- Board: 10*10
- You can’t see the opponent board
- Goal: touch every boat’s points
- 1 attempt by turn
- You know when you touched a point

MY VERSION

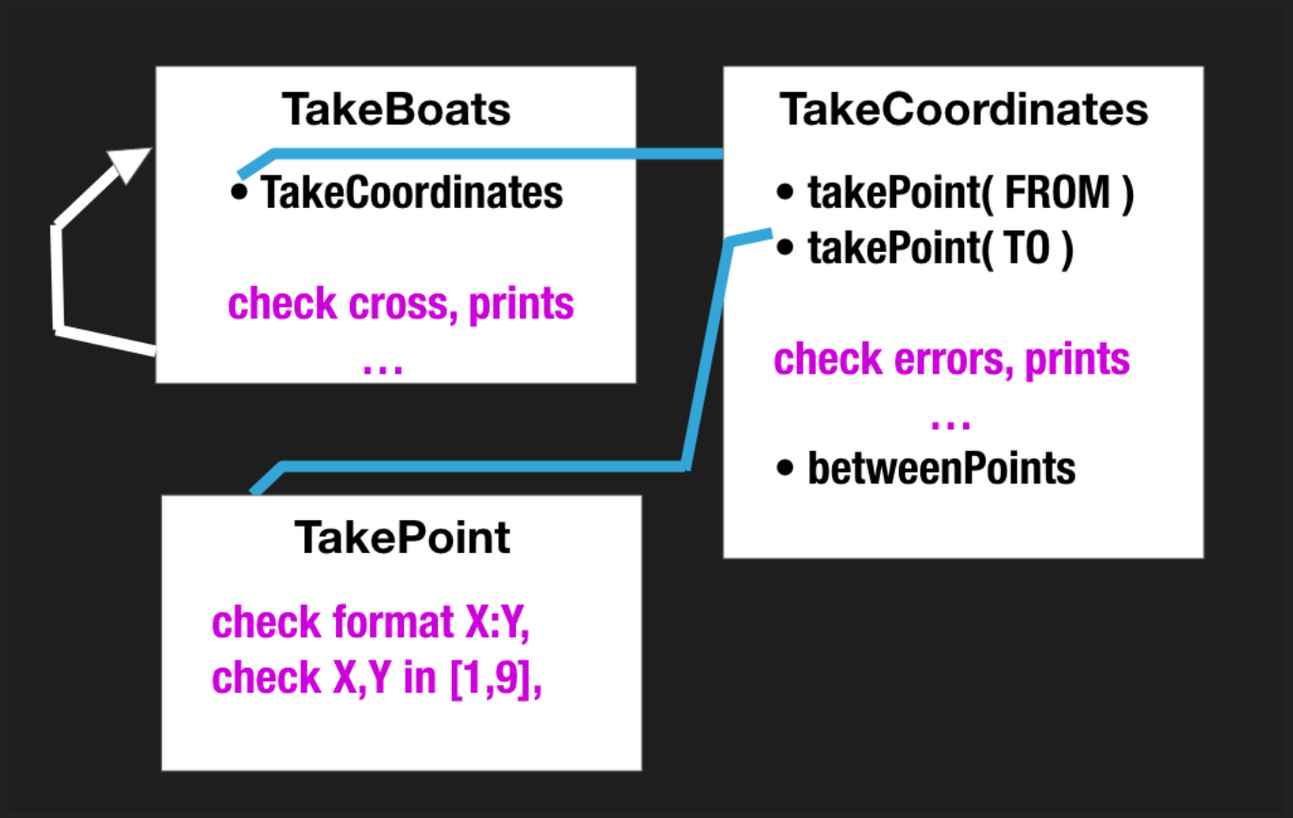
- AI mode or 1v1
- 3 boats only (10 points)
- Board: 9*9
- Previous attempts are enumerated and not displayed on a board

```
__ AI is playing __
-> AI touched you at 1:2 !

           __________ GREEN PLAYER __________

• Your board:

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
---|---|---|---|---|---|---|---|---|---|
 1 |   |   |   |   |   |   |   |   |   |
---|---|---|---|---|---|---|---|---|---|
 2 | + |   |   |   |   |   |   |   |   |
---|---|---|---|---|---|---|---|---|---|
 3 | 0 |   |   |   |   |   |   |   |   |
---|---|---|---|---|---|---|---|---|---|
 4 |   | 0 | 0 | 0 |   |   |   |   |   |
---|---|---|---|---|---|---|---|---|---|
 5 |   |   |   |   |   |   | 0 |   |   |
---|---|---|---|---|---|---|---|---|---|
 6 |   |   |   |   |   |   | 0 |   |   |
---|---|---|---|---|---|---|---|---|---|
 7 |   |   |   |   |   |   | 0 |   |   |
---|---|---|---|---|---|---|---|---|---|
 8 |   |   |   |   |   |   | 0 |   |   |
---|---|---|---|---|---|---|---|---|---|
 9 |   |   |   |   |   |   | 0 |   |   |
---|---|---|---|---|---|---|---|---|---|

• Previous targets (touched):  6:6 - 8:1 - 9:1
TARGET =
```

FUNCTIONS DIAGRAM



FUNCTIONS DIAGRAM




```
AI mode ? [y/N]
y

______ GREEN PLAYER ______

    • Boat of size 2 •
FROM = 1:2
TO = 1:3

Points are 1:2 - 1:3

    • Boat of size 3 •
FROM = 4:4
TO = 6:4

Points are 4:4 - 5:4 - 6:4

    • Boat of size 5 •
FROM = 1:8
TO = 5:8

Points are 1:8 - 2:8 - 3:8 - 4:8 - 5:8
```

FUNCTIONS DIAGRAM

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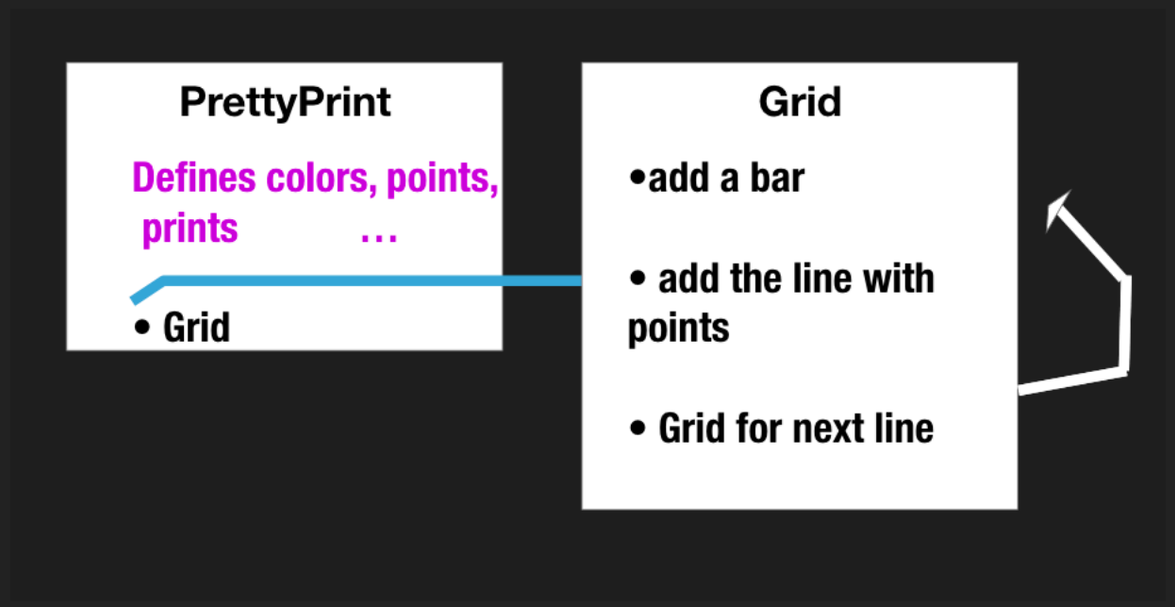
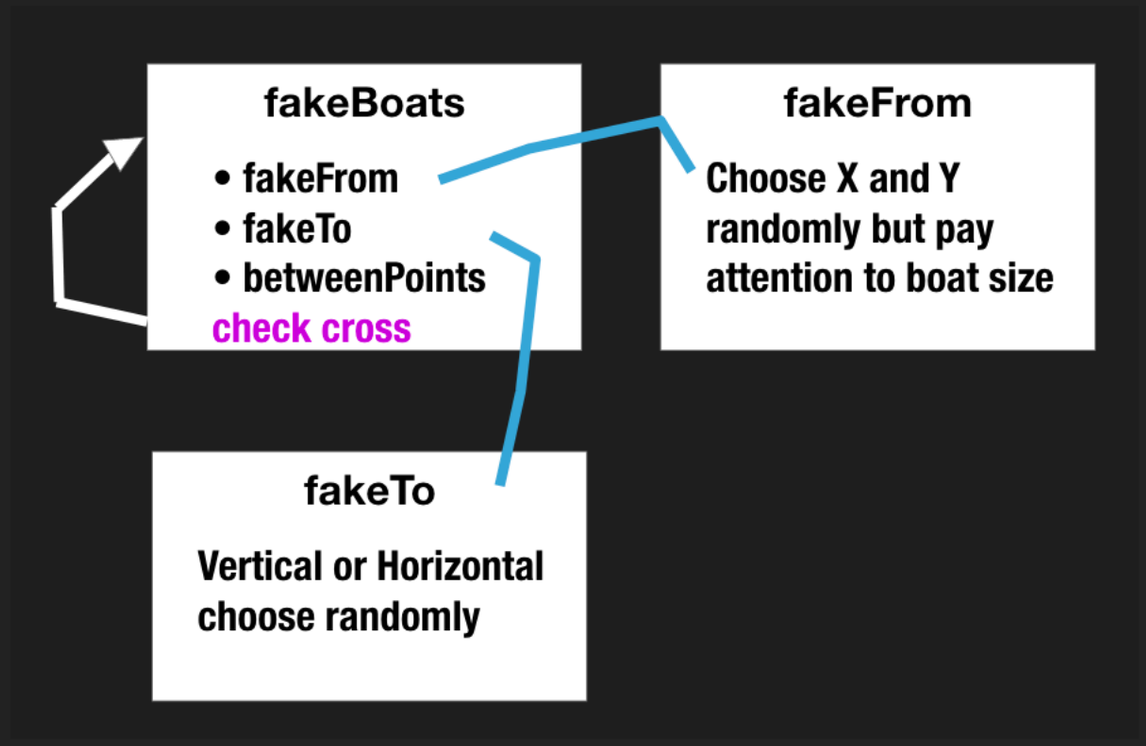


AI MODE

- Only the interactions part are modified (for the blue player)



AMELIORATIONS

- Quelques ligne répétées
- Finir l'IA
- Ajouter un undo

QUESTIONS ?

Link: GitHub_Battleship