

# Exercises Diagrams 06-07/07/2022

## Class Diagram-Tic Tac Toe

@startuml

TicTacToe\*-->"Turn"

TicTacToe\*-->"Tablero"

Turn-->"PCorGabs"

PCorGabs-->"Tablero"

PCorGabs o-->"Move"

PCorGabs-->"Win"

Move <|-- Useit

Win ..>" " Useit

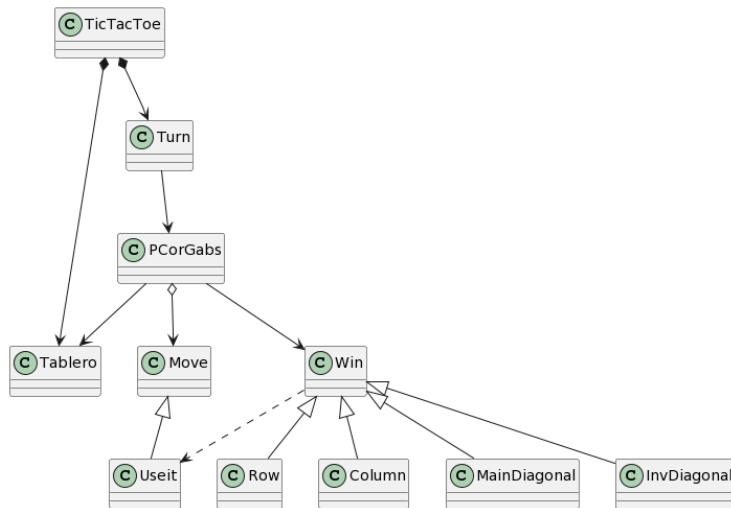
Win <|-- Row

Win <|-- Column

Win <|-- MainDiagonal

Win <|-- InvDiagonal

@enduml



## Class Diagram-Tic Tac Toe V2.0

@startuml

TicTacToe\*-->"Tablero"

TicTacToe\*-->"Turn"

TicTacToe\*-->"User"

User<|-- Gabs

User<|-- PC

User-->"Win"

Turn\*-->"User"

Gabs\*-->"Movement"

PC\*-->"Movement"

Tablero<.. " " Movement

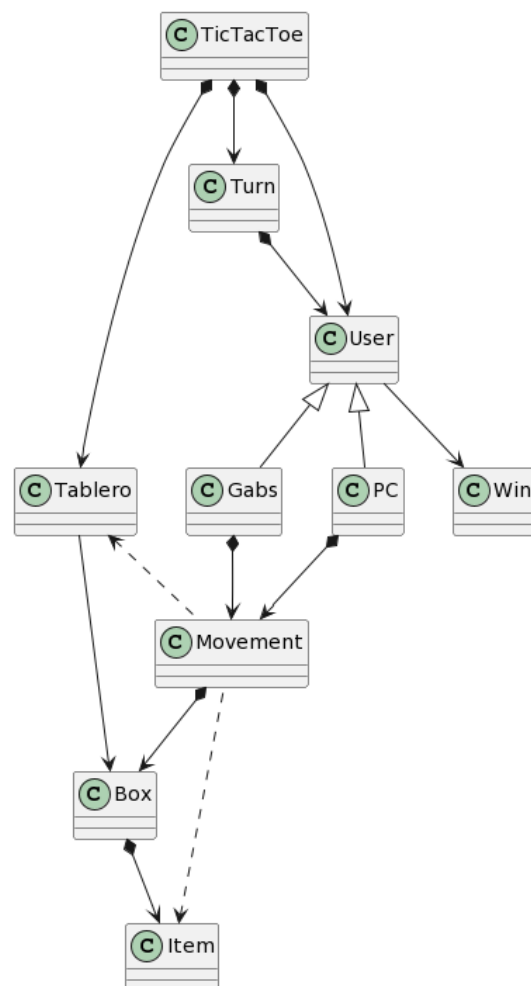
Movement\*-->"Box"

Box\*-->"Item"

Item<.. " " Movement

Tablero-->"Box"

@enduml



## Class Diagram-Tic Tac Toe V3.0

@startuml

```
class TicTacToe{
  -first
  #tablero
  ~PcScore
  +GabsScore
  ~main()
  +Introduction()
}
```

```
class Turn{
  -tablero
  #tablero
  ~turn()
  +win()
}
```

```
class User{
  ~getbox()
  +putitem()
}
```

```
class Gabs{
  ~getbox()
}
```

```
class PC{
  ~getbox()
}
```

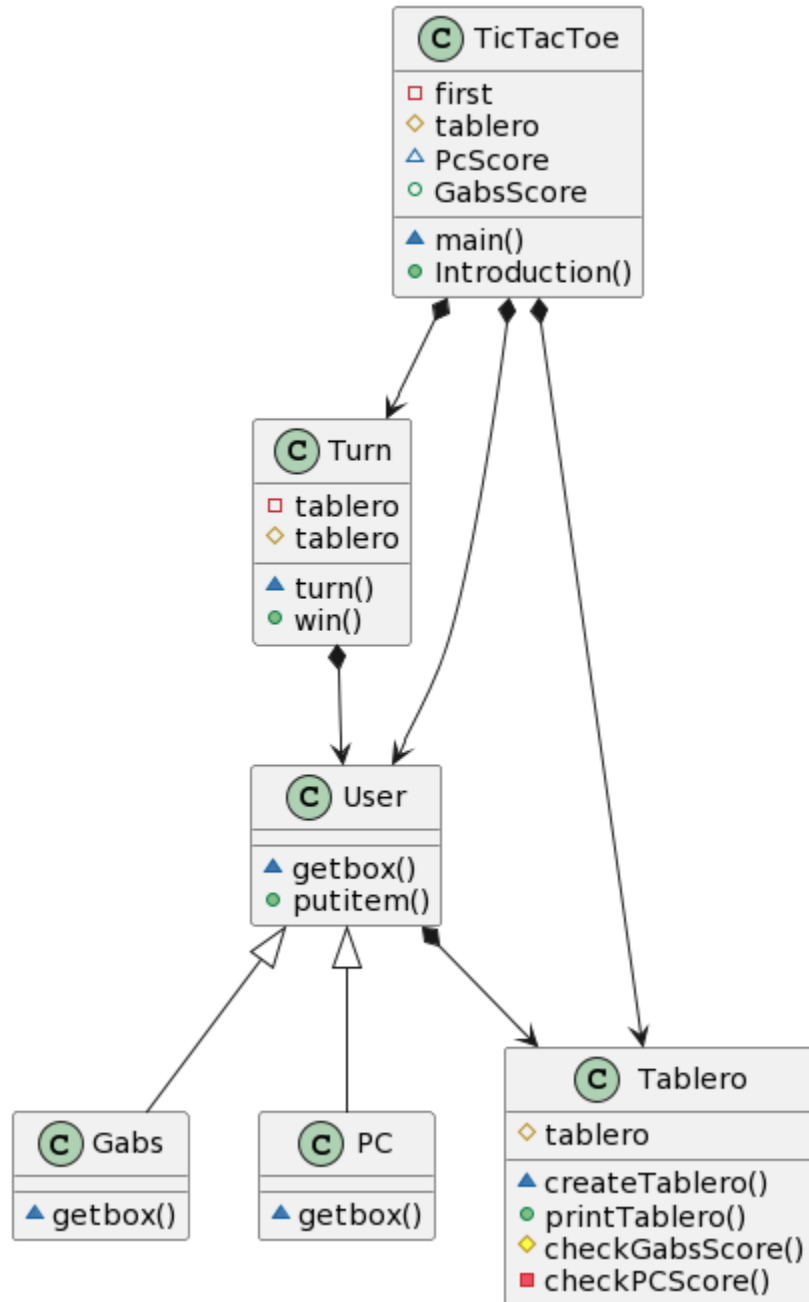
```
class Tablero{
  #tablero
  ~createTablero()
  +printTablero()
  #checkGabsScore()
  -checkPCScore()
}
```

TicTacToe\*-->"Tablero"

TicTacToe\*-->"Turn"

TicTacToe\*-->"User"

User\*-->"Tablero"

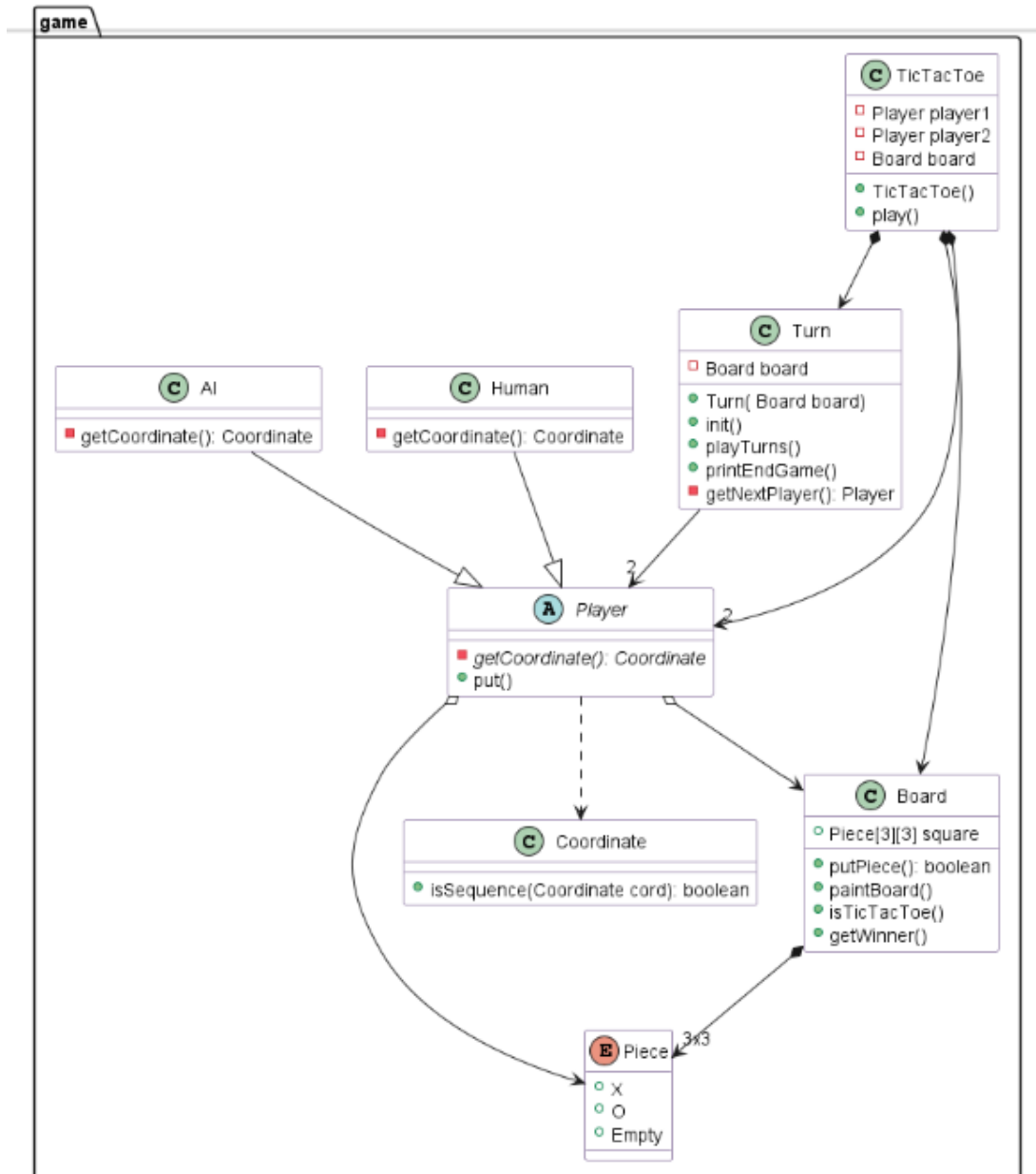


User<|-down- Gabs  
User<|-down- PC

Turn\*-down->"User"

@enduml

Diagrama base ejemplo



## *Activity Diagram-Tic Tac Toe*

@startuml

:TicTacToe;

:Welcome;

start

if (Do you want to do the first movement?) then (yes)

:Choose your \nmovement;

start

if (TableroPosition=' ') then (yes)

:TableroPosition='X';

start

if (tablero[0][0] == 'X') then (yes)

:GabsScore += 1;

elseif (tablero[0][2] == 'X') then (yes)

:GabsScore += 3;

elseif (tablero[2][0] == 'X') then (yes)

:GabsScore += 1000;

elseif (tablero[2][2] == 'X') then (yes)

:GabsScore += 3000;

elseif (tablero[1][1] == 'X') then (yes)

:GabsScore += 200;

elseif (tablero[0][1] == 'X') then (yes)

:GabsScore += 2;

elseif (tablero[1][0] == 'X') then (yes)

:GabsScore += 100;

elseif (tablero[1][2] == 'X') then (yes)

:GabsScore += 300;

elseif (tablero[2][1] == 'X') then (yes)

:GabsScore += 2000;

endif

elseif (TableroPosition='X' || TableroPosition='O') then (yes)

```

:Choose another position;
endif

```

```

else (no)
:Computer starts;

```

```

start
if (tablero[0][0] == ') then (yes)
:tablero[0][0] == 'O';
:PCScore += 1;
elseif (tablero[0][2] == ') then (yes)
:tablero[0][2] == 'O';
:PCScore += 3;
elseif (tablero[2][0] == ') then (yes)
:tablero[2][0] == 'O';
:PCScore += 1000;
elseif (tablero[2][2] == ') then (yes)
:tablero[2][2] == 'O';
:PCScore += 200;
elseif (tablero[1][1] == ') then (yes)
:tablero[1][1] == 'O';
:PCScore += 200;
elseif (tablero[0][1] == ') then (yes)
:tablero[0][1] == 'O';
:PCScore += 2;
elseif (tablero[1][0] == ') then (yes)
:tablero[1][0] == 'O';
:PCScore += 100;
elseif (tablero[1][2] == ') then (yes)
:tablero[1][2] == 'O';
:PCScore += 300;
elseif (tablero[2][1] == ') then (yes)
:tablero[2][1] == 'O';
:PCScore += 2000;
endif

```

```

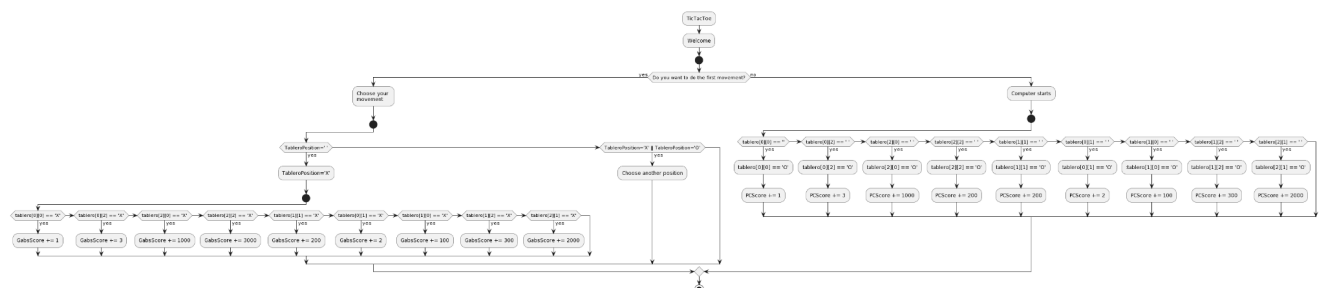
endif

```

```

stop
@enduml

```



## State Diagram-Tic Tac Toe

@startuml

state Decision as "Decision"

state Movement as "Movement"

[\*]--> Decision

Decision-->Movement

Movement-->HorizontalLine

Movement-->VerticalLine

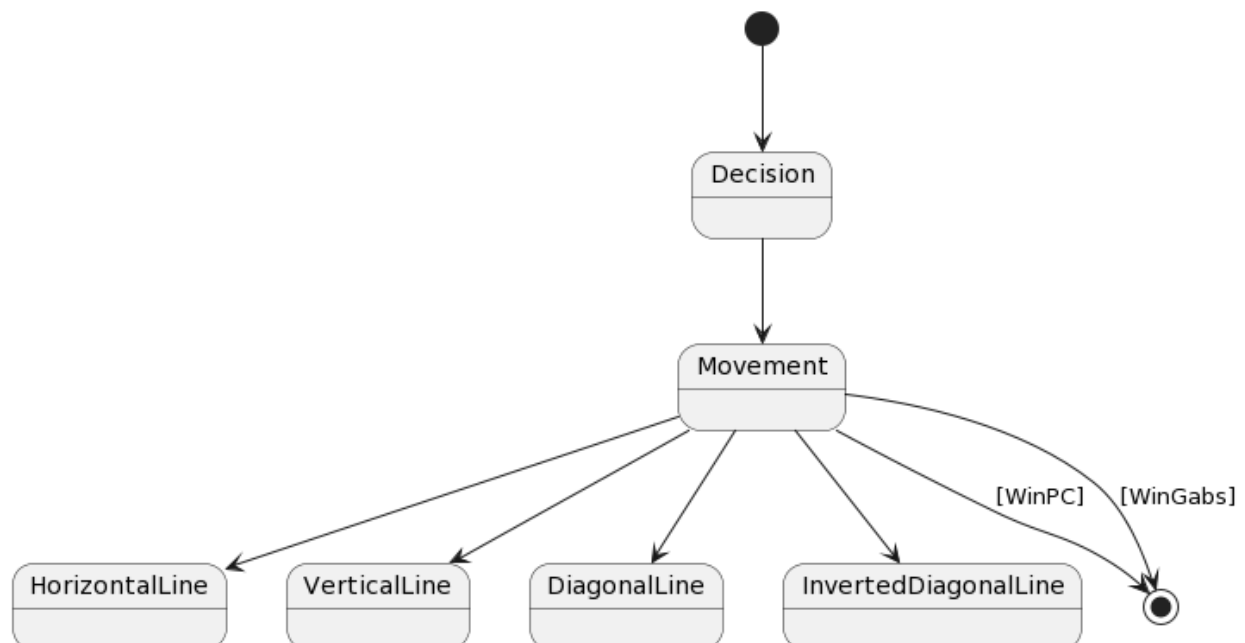
Movement-->DiagonalLine

Movement-->InvertedDiagonalLine

Movement-->[\*]:[WinPC]

Movement-->[\*]:[WinGabs]

@enduml



## *Object Diagram-Tic Tac Toe*

@startuml initState

object ":TicTacToe" as TicTacToe

object ":Tablero" as Tablero

TicTacToe \*-down-> Tablero

object "Position" as Tablero11{

    r= 1

    c= 1

}

object "Position" as Tablero12{

    r= 1

    c= 2

}

object "Position" as Tablero13{

    r= 1

    c= 3

}

object "Position" as Tablero21{

    r= 2

    c= 1

}

object "Position" as Tablero22{

    r= 2

    c= 2

}

object "Position" as Tablero23{

    r= 2

    c= 3

}

object "Position" as Tablero31{

    r= 3

    c= 1

}

```

object "Position" as Tablero32{
    r= 3
    c= 2
}
object "Position" as Tablero33{
    r= 3
    c= 3
}

```

```

Tablero --> Tablero11
Tablero--> Tablero12
Tablero--> Tablero13
Tablero--> Tablero21
Tablero--> Tablero22
Tablero--> Tablero23
Tablero--> Tablero31
Tablero--> Tablero32
Tablero --> Tablero33

```

@enduml

