

ce qu'il reste à faire : - message queue, protection des données

```
import sysv_ipc
from queue import Queue
import random
import timer
from multiprocessing import Process, Value, Array, Lock

key_BtoP = 128
key_PtoB = 129
mq_BtoP = sysv_ipc.MessageQueue(key_BtoP, sysv_ipc.IPC_CREAT)
mq_PtoB = sysv_ipc.MessageQueue(key_PtoB)

class Player(Process):
    def init(self, Pile, ID):
        self.Pile = Pile
        cartes_main = []
        for i in range(6):
            mains.append(pioche())
```

```
def run_player(Player):
    start = time.time()
    while len(Player.cartes_main) != 0:
        while timer < 10000:
            if mq_PtoB.size:
                lire message(=cartemsg) que player to Board
                for carte in Player.cartes_main:
                    if cartemsg == carte:
                        Player.cartes_main.remove(carte)
                    elif cartemsg == 100 + carte:
                        main.append(pioche())
            cartes_mains.append(pioche[0])
        end = time.time()
        timer = end - start
        timer = 0

def carte_joue():
    if mq_PtoB.size() != 0:
        return True
    return False
```

```
class Board:
```

```

def init(self, numCard, numPlayers, ):
self.card = numCard
processes = []
for i in range(0, numPlayers):
p = Player(Pile, )
processes.append(p)
p.start()
# il faut start les processes

```

```

def run(self):
    message = 0
    while(! is__finished()):
        # Message queue Board to Player
        while message:
            message_BtoP = str(value_BtoP).encode()
            mq_BtoP.send(message_BtoP)

        # Message Queue Player to Board
        while True:
            message_PtoB, t = mq_PtoB.receive()
            value_PtoB = message_PtoB.decode()
            value_PtoB = int(value_PtoB)
            if value_PtoB: # Value_PtoB sera un tableau avec 2 cases : la première
                print("received:", value_PtoB)
                numJoueur = value_PtoB[1]
                if is_valid(self.card, value_PtoB[0]):
                    self.card = value_PtoB[0]
                    message = 1
                    value_BtoP = int(value_PtoB[0])
                else:
                    # Si mauvais on renvoie le numéro de la carte + 100
                    value_BtoP = int(100+value_PtoB[0])
                mq_PtoB.empty()

            else:
                print("exiting.")
                break
        mq_BtoP.remove()
        mq_PtoB.remove()

```

```

def is_finished(pile, lock):
    with lock
    if (len(pile) == 0):
        return True
    return False

```

```

def is_valid(board_card, player_card):

```

```
if ((player_card == board_card + 1)
or (player_card == board_card - 1)
or (abs(player_card) == abs(board_card))):
return True
return False
```

```
def pioche(pile, lock):
with lock:
pile_content = pile[0]
pile.pop(0)
return pile_content
```

```
if name == "main":
# Creating Message Queue Board to Player
```

```
# Initialisation Pile
# les numéros négatifs représenteront les bleus tandis que les numéros négatifs ser
pile = Array('i', range(-10, 10))
lock = Lock()
random.shuffle(pile)
numJoueur = int(input("Entrez le nb de joueur :"))
theBoard = Board(1, 2, lock)
```