README(Bang!)

#Big-Bang-Simulator

A Bang board game simulator written in C by team 10

☀ ☀ 遊戲開始 ./main

```
Usage:
   ./main [options]
      -o, --output: Output file name. default: log.txt
      -n, --name  : Your name. default: Joker
      -p, --player: Number of Player. default: 4 (4~7)
      -h, --help  : This description
```

分為四個 struct：

Game：

```c
typedef struct _game
{
    uint32_t _total_card_cnt; // = 80
    uint8_t _total_player_cnt;
    uint8_t _alive_player_cnt;
    player **_player;
    uint8_t _turn;
    card **_discard;
    uint32_t _discard_cnt;
    card **_deck;
    uint32_t _deck_cnt; // if = 0 shuffle from _discard
    char *_logfile_name;
} game;
```

Card：

```c
typedef struct _card
{
    uint8_t _suit; // 1 spade 2 heart 3 diamond 4 club
    uint8_t _number;
    const char *_name;
    const char *_skill;
    /*
     * bang
     * throw
     * draw
     * missed
     * specify_palyer_nodis
     * others_players
     * plus_hp
     * specify_palyer_dis
     * plus_dis
     * distance
     * minus_dis
     */
} card;
```

Player：

```c
1   typedef struct _player
2   {
3       uint8_t _id;
4       char *_name;
5       uint8_t _position; // 角色位置
6       role *_role;
7       char *_identity; // Sceriffo, Vice, Fuorilegge, Rinnegato
8       int8_t _max_hp;  // after checking the role is Sceriffo or not
9       int8_t _hp;
10      uint8_t _hand_cnt; // must not higher than _hp at the end of round
11      card **_hand;
12      card *_gun;    // 0, 1, 2, 3, 4, 5
13      card *_horse; // -1, 0, 1
14      card *_jail;
15      card *_dinamite;
16      card *_barrel;
17  } player;
```

Role：

```c
1   typedef struct _role
2   {
3       const char *_name;  //名稱
4       const char *_skill; //功能
5       uint8_t _lvalue;    //生命值
6   } role;
```

特殊(手牌/裝備)的功能：

- Volcanic --> 可以使用任意張數 bang。
- Prigione -->限制任意一位玩家的一回合活動，被關的玩家到他的回合開始前，從牌頂抽取一張進行判定，如果花色是愛心，則玩家越獄成功，棄掉監獄繼續進行回合，若不是愛心，棄掉監獄並暫停一回合。
- Duello --> 目標玩家棄掉一張 bang 接著元玩家也要出 bang，輪流出牌，直到其中一人沒出 bang，此人損失一點血量。
- Emporio --> 計算目前玩家還在遊戲中的人數，從牌庫中翻開相同數量的牌，每位玩家挑選一張收入自己手牌中。
- Dinamite --> 打出此牌後，放在自己的面前，停留一整輪，下次開始回合前，先進行抽牌判定，如果不在黑桃 2~9 的範圍內，則將炸藥傳給左手邊的玩家，即下一家，若在範圍內，則當局玩家立刻損失 3 點血量並棄掉此牌繼續進行回合。
- Indianii --> 所有其餘玩家棄掉一張 bang，否則損失一點生命值。

（先判定炸藥後判定監獄）

我們出現的 bug：

1. 無限出任意張數 Bang

2. 雜貨舖出現 segmentation fault(已解決)

💥💥函式輸入只能數字(要合法輸入)

↓↓這是我們一進去的畫面，會先告訴我們自己的身份、角色和角色的技能

```
=====================
    Big Bang Simulator
(う·`)づ▬▬╤─      \("□」)/
    Created by Team 10
=====================

Game log will be stored in log.txt
Player Joker draw a card 🎴 ξ( ✿>‿)!
Player Joker draw a card 🎴 ξ( ✿>‿)!
Player Joker draw a card 🎴 ξ( ✿>‿)!
Player Joker draw a card 🎴 ξ( ✿>‿)!
Player Akira draw a card 🎴 ξ( ✿>‿)!
Player Akira draw a card 🎴 ξ( ✿>‿)!
Player Akira draw a card 🎴 ξ( ✿>‿)!
Player Akira draw a card 🎴 ξ( ✿>‿)!
Player Akira draw a card 🎴 ξ( ✿>‿)!
Player Bob draw a card 🎴 ξ( ✿>‿)!
Player Bob draw a card 🎴 ξ( ✿>‿)!
Player Bob draw a card 🎴 ξ( ✿>‿)!
Player Cloud draw a card 🎴 ξ( ✿>‿)!
Player Cloud draw a card 🎴 ξ( ✿>‿)!
Player Cloud draw a card 🎴 ξ( ✿>‿)!
Player Cloud draw a card 🎴 ξ( ✿>‿)!
GAME START

Turn 1:Player Joker draw a card 🎴 ξ( ✿>‿)!
Player Joker draw a card 🎴 ξ( ✿>‿)!
Health    : 4/4
position  : 1
identity  : Fuorilecce
role name : SlabTheKiller
role skill: Players trying to cancel his "Bang!" cards need to play 2 "Missed!". The "Barrel" effect, if successfully used, only cou
nts as one "Missed!"
-------------------
```

```
Joker(YOU)(4) Akira🛏(5) Bob(3) Cloud(4)
What do you want to do?
0: End turn.
1: BANG
2: BANG
3: MANCATO
4: MUSTANG
5: CATBALOU
6: BIRRA
-------------------
Your Choice > ▉
```

↑↑就能選擇想要出的牌了！！

這是我們抽到每張牌時，會長的樣子：

\<手牌>

```
--------------------
Card BANG info:
Action: BANG someone within distance
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
Player Joker discard BANG 🙍 ξ( ✿>ひ)!
Player Joker used BANG( ☉☉≡o──。。。 successed
Player Akira discard MANCATO 🙍 ξ( ✿>ひ)!
Player Akira used MANCATO🛡successed
```

← ← 當我們選擇 BANG 並決定好對象時，

　　它就會告訴我們是否有發動成功。

```
Card MANCATO info:
Action: prevent from BANGed
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
Player Joker used MANCATO🛡failed
```

← ← 當我們出 MANCATO 並決定好對象時，

　　它就會告訴我們是否有發動成功。

```
Card BIRRA info:
Action (self): Regain your one life point
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Your HP is full.
```

← ← 當我們出 BIRRA 時，就可以選擇要放回手

　　牌還是丟掉或是用在自己身上。

```
Card PANICOI info:
Action: Draw a card from a player at distance 1
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
You can draw a card from Player Akira
What do you want to draw?
1: Equipments
2: Hand cards
3: Cancel
Your choice: 2
1
2
3
4
5
Which one do you choose: 3
Draw success!
Player Joker discard PANICOI 🙍 ξ( ✿>ひ)!
Player Joker used PANICOIΣ└(@□@;)┘ successed
```

← ← 當我們出 PANICOI 並決定好對象時，

　　您就可以選擇要換什麼牌的第幾張。

```
--------------------
Card CATBALOU info:
Action: Force any one player to discard a card
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
Player Akira discard VOLCANIC 🙍 ξ( ✿>ひ)!
discard success
Player Joker discard CATBALOU 🙍 ξ( ✿>ひ)!
Player Joker used CATBALOU❌🚶 successed
```

← ← 當我們出 CATBALOU 並決定好對象時，

　　它就會告訴我們是否有發動成功。

```
Card GATLING info:
Action (all): Shoots a BANG! to all the other players
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Joker discard GATLING 🃏 ξ( ✿>ㅅ)!
Player Joker used GATLING🔫 successed
```

← ← 當我們出 GATLING 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card INDIANI info:
Action (all): who played this card, may discard a BANG, or lose one life point
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Akira discard BANG 🃏 ξ( ✿>ㅅ)!
Player Bob discard BANG 🃏 ξ( ✿>ㅅ)!
Player Joker discard INDIANI 🃏 ξ( ✿>ㅅ)!
Player Joker used INDIANI(ﾉ>д<)ﾉ successed
```

← ← 當我們出 INDIANI 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card DUELLO info:
Action: draw BANG until the one can't draw HP-1
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
Player Akira discard BANG 🃏 ξ( ✿>ㅅ)!
Do you want to throw bang?
1: Yes
2: No
Choice: 1
But you don't have "BANG"cards to throw.
So you will lose one life.
Player Joker used DUELLO🤺 successed
```

← ←當我們出 DUELLO 並決定好對象時，它就會告訴我們是否有發動成功。

```
Card SALOON info:
Action (all): Regain everyone one life points
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Joker discard SALOON 🃏 ξ( ✿>ㅅ)!
Player Joker used SALOON🍷🍸🍹🍾 successed
```

← ←當我們出 SALOON 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card DILIGENZA info:
Action (self): Draw 2 cards from the deck
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Joker draw a card 🃏 ξ( ✿>ㅅ)!
Player Joker draw a card 🃏 ξ( ✿>ㅅ)!
Player Joker discard DILIGENZA 🃏 ξ( ✿>ㅅ)!
Player Joker used DILIGENZA🃏🃏 successed
```

← ←當我們出 DILIGENZA 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card EMPORIO info:
Action (all): Everyone gets a card (雜貨鋪)
---------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
---------------------
Your Action > 0
 draw a card 🃏 ξ( ✿>ᴗ)!
 draw a card 🃏 ξ( ✿>ᴗ)!
 draw a card 🃏 ξ( ✿>ᴗ)!
 draw a card 🃏 ξ( ✿>ᴗ)!
1: MANCATO
2: GATLING
3: BANG
4: MANCATO
Which one do you choose: 3
Player Joker discard EMPORIO 🃏 ξ( ✿>ᴗ)!
Player Joker used EMPORIO🎴 successed
```

← ←當我們出 EMPORIO 時，就可以選擇要放回手牌還是丟掉或是用在自己身上，並選一張牌。

```
Card WELLSFARGO info:
Action (self): Draw 3 cards from the deck
---------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
---------------------
Your Action > 0
Player Joker draw a card 🃏 ξ( ✿>ᴗ)!
Player Joker draw a card 🃏 ξ( ✿>ᴗ)!
Player Joker draw a card 🃏 ξ( ✿>ᴗ)!
Player Joker discard WELLSFARGO 🃏 ξ( ✿>ᴗ)!
Player Joker used WELLSFARGO🃏🃏🃏 successed
```

← ←當我們出 WELLSFARGO 時，就可以選擇要放回手牌還是丟掉或是用在自己身上，並選一張牌。

<裝備牌>

```
-------------------
Card MUSTANG info:
Equipment: The distance between other players and you is increased by 1(other watch you)
-------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
-------------------
Your Action > 0
Player Joker discard MUSTANG 🃏 ξ( ✿>ㅂ)!
Player Joker equiped MUSTANG💨 successed
```

← ← 當我們出 MUSTANG 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
-------------------
Card REV. CARABINE info:
Equipment: 4-distance gun
-------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
-------------------
Your Action > 0
Player Joker discard VOLCANIC 🃏 ξ( ✿>ㅂ)!
Player Joker discard REV. CARABINE 🃏 ξ( ✿>ㅂ)!
Player Joker equiped REV. CARABINE successed
-------------------
```

← ← 當我們出 REV. CARABINE 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card VOLCANIC info:
Equipment: 1-distance gun (unlimited BANG)
-------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
-------------------
Your Action > 0
Player Joker discard SCHOFIELD 🃏 ξ( ✿>ㅂ)!
Player Joker discard VOLCANIC 🃏 ξ( ✿>ㅂ)!
Player Joker equiped VOLCANIC successed
```

← ← 當我們出 VOLCANIC 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card SCHOFIELD info:
Equipment: 2-distance gun
-------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
-------------------
Your Action > 0
Player Joker discard SCHOFIELD 🃏 ξ( ✿>ㅂ)!
Player Joker equiped SCHOFIELD successed
```

← ← 當我們出 SCHOFIELD 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card WINCHESTER info:
Equipment: 5-distance gun
-------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
-------------------
Your Action > 0
Player Joker discard WINCHESTER 🃏 ξ( ✿>ㅂ)!
Player Joker equiped WINCHESTER successed
```

← ← 當我們出 WINCHESTER 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card PRIGIONE info:
Equipment: Play this card in front of any player regardless of the distance: you put him in jail! If you are in jail, you must "draw
!" before the beginning of your turn:
if you draw a Heart card, you escape from jail: discard the Jail, and continue your turn as normal;
otherwise discard the Jail and skip your turn.
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
Player Joker equiped PRIGIONE🚙 failed
```

↑↑當我們出 PRIGIONE 並決定好對象時，它就會告訴我們是否有發動成功。

```
Card DINAMITE info:
Equipment: When you start your next turn (you have the Dynamite already in play), before the first phase you must "draw!":
if you draw a card showing Spades and a number between 2 and 9, the Dynamite explodes! Discard it and lose 3 life points;
otherwise, pass the Dynamite to the player on your left (who will "draw!" on his turn, etc)
--------------------
-2: Return to your handcard.
-1: Move to trash.
1: Use the card to Akira
2: Use the card to Bob
3: Use the card to Cloud
--------------------
Your Action > 1
Player Joker discard DINAMITE 🎇 ξ( ✿>⌣)!
Player Joker equiped DINAMITE⚫ successed
```

↑↑當我們出 DINAMITE 並決定好對象時，它就會告訴我們是否有發動成功。

```
Card REMINGTON info:
Equipment: 3-distance gun
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Joker discard REMINGTON 🎇 ξ( ✿>⌣)!
Player Joker equiped REMINGTON successed
```

← ← 當我們出 VOLCANIC 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card BARREL info:
Equipment: prevent from card heart
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Joker discard BARREL 🎇 ξ( ✿>⌣)!
Player Joker equiped BARREL🍺 successed
```

← ← 當我們出 BARREL 時，就可以選擇要放回手牌還是丟掉或是用在自己身上。

```
Card REMINGTON info:
Equipment: 3-distance gun
--------------------
-2: Return to your handcard.
-1: Move to trash.
0: Use/Equip the card to yourself.
--------------------
Your Action > 0
Player Joker discard REMINGTON 🃏 ξ( ✿>ひ)!
Player Joker equiped REMINGTON successed
```

← ← 當我們出 REMINGTION 時，

就可以選擇要放回手牌還是丟掉

或是用在自己身上。

組員：

邱可菡

洪軾凱

劉庭瑄