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FINAL PROJECT

Board Game : San Juan

Card Content :

```
$The production (colored) buildings:

CN POSITION  BUILDING
00 000~009   indigo plant
00 010~017   sugar mill
00 018~025   tobacco storage
00 026~033   coffee roaster
00 034~041   silver smelter
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$The violet buildings:

CN POSITION  BUILDING
01 042~044   Tower
02 045~047   Chapel
**********************************
03 048~050   Smithy
04 051~053   Poor house
05 054~056   Black market
06 057~059   Crane
07 060~062   Carpenter
08 063~065   Quarry
**********************************
09 066~068   Well
10 069~071   Aquaduct
**********************************
11 072~074   Market stand
12 075~077   Market hall
13 078~080   Trading post
**********************************
14 081~083   Archive
15 084~086   Prefecture
**********************************
16 087~089   Gold mine
***********************************
17 090~092   Library
-----------------------------------
$The three   monuments:
```

```
CN POSITION  BUILDING
18 093~095   Statue
19 096~098   Victory column
20 099~101   Hero
-----------------------------------
$The four value 6 buildings:

CN POSITION  BUILDING
21 102~103   Guild hall
22 104~105   City hall
23 106~107   Triumphal arch
24 108~109   Palace
```

Information :

<1> Card_Point : 卡片分數

<2> Card_Paid : 卡片價值

<3> Product_Paid : 價格卡

<4> state[5] : 職業可否使用

<5> state_g[4] : 總督位置

<6> role_name[5][15] : 職業名稱

<7> role_introduce_1[5][30] : 職業行動

<8> role_introduce_2[5][30] : 特權行動

Structure Player :

```
typedef struct player
{
    char name[4]; //名字
    char role[15]; //職業
    int32_t handcard[12]; //手牌
    int32_t handcard_number; //手牌數
    int32_t table[12]; //桌上建築
    int32_t table_number; //桌上建築數
    int32_t type[12]; //桌上建築代號
    int32_t product[12]; // 貨品內容
    int32_t product_position[12]; //貨品位置
    int32_t product_number; //貨品數
    int32_t limit; //手牌限制數
    int32_t sell; //賣出貨品數
    int32_t n; //角色位置
    int32_t church[50]; //教堂下覆蓋內容
    int32_t church_number; //教堂下覆蓋數
    int32_t memory[5]; //暫存 (用於Councillor)
    int32_t memory_number; //暫存數
    int32_t score; //分數
} Player;
```

Function introduce :

```
<01> Type( Player *ip ) //判斷卡牌代碼
<02> Check_type( int32_t x ) //把桌上建築卡牌代碼寫進 ip->type陣列
<03> Check_input( bool condition ) //判斷輸入是否合法
<04> Introduce() //介紹
<05> Shuffle( int32_t number ) //第一次洗牌+初始化
<06> Shuffle_again( int32_t last ) //把棄牌區重新洗牌
<07> Print_surface( const Player ip[4] ) //輸出介面
<08> Name( int32_t number ) //取名
<09> Q() //是否需要資訊
<10> Change( Player *ip , int32_t count , int32_t option ) //刪除卡牌
*******************************************************************************
<11> normal_build( Player *ip ) //正常蓋法，包含於Your_Builder
<12> crane_build( Player *ip ) //起重機蓋法，包含於Your_Builder
<13> Your_Builder( Player *ip ) //建築師回合行動，包含於Your_behave
<14> Your_Producer( Player *ip ) //生產者回合行動，包含於Your_behave
<15> Your_Trader( Player *ip ) //商人回合行動，包含於Your_behave
<16> Your_Councillor( Player *ip , bool option ) //議員回合行動，包含於Your_behave
<17> Your_Prospector( Player *ip , int32_t who ) //礦工回合行動，包含於Your_behave
*******************************************************************************
<19> Other_Builder( Player *ip ) //建築師回合行動，包含於Other_behave
<20> Other_Producer( Player *ip ) //生產者回合行，包含於Other_behave動
<21> Other_Trader( Player *ip ) //商人回合行動，包含於Other_behave
<22> Other_Councillor( Player *ip , int32_t who ) //議員回合行動，包含於Other_behave
<23> Other_Prospector( Player *ip , int32_t who ) //礦工回合行動，包含於Other_behave
*******************************************************************************
<24> Your_behave( Player *ip , int32_t choose , Player *who , Player *Governor )
//不為自己選職業時自己的行動
<25> Other_behave( Player *ip , int32_t choose , Player *who , Player *Governor )
//不為電腦角色自己選角色時電腦的行動
<26> Check_for_every_turn( int32_t number ) //回合檢查
<27> Your_Role( Player *ip ) //自己選職業時自己的行動
<28> Other_Role( Player *ip ) //電腦角色自己選角色時電腦的行動
<29> Champion( int32_t number ) //算分並回傳最高分者
```

Special Action :

如果難以抉擇或是懶的行動，不妨叫電腦幫你決定

(僅限於建築師回合)

Version :

若是沒時間玩這麼龐大的一局

可以在一開始切換成八張牌結束的模式

Difficulty :

可以選擇每個電腦玩家的難度

若選擇健忘版，可能會因為發呆而忘記行動喔！

Introduction before game :

```
************************ SAN JUAN ************************
Governor first ( Swap clockwise every round )
Everyone will have 4 handcards in the begining.
And limit of handcards is 7 ( In normal condition )
If the number of your handcards exceed the limit,
you have to give up one of them.
There are 5 role card :
1. Builder
$ normal    : Build a building.
$ privilege : Build 2 building.

2. Producer
$ normal    : Produce a product.
$ privilege : Produce 2 product.

3. Trader
$ normal    : Produce a product.
$ privilege : Produce 2 product.

4. Councillor
$ normal    : Pick 2 choose 1.
$ privilege : Pick 5 choose 1.

5. Prospector
$ normal    : Pick a card.
$ privilege : Pick 2 card.

Decide whether to behave or exercise privilege
( If you choose that role card )

Difficulty :
[1]Normal [2]Forgetful
```

```
Version Action :
[1]Normal [2]Shorter
If you don't have so much time.
You can choose a shorter version.(8 cards end the game).
Special Action :
If you are so lazy to pick by yourself.
Computer can choose for you.(Only for Builder's turn)
Waring!Please do not enter any string or char.
Because the game will be ended!
************************ SAN JUAN ************************
```

Interface :

```
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Player: You                  |Player: Com1
Role playcards:              |Role playcards:
Governor: 0                  |Governor: 1
Handcards:                   |Handcards:
053 044 087 078              |034 058 070 066
                             |
Table:                       |Table:
000                          |001
                             |
Product position:            |Product position:
                             |
                             |
Under the Chapel: 000        |Under the Chapel: 000
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Builder Producer Trader Councillor Prospector
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Player: Com2                 |Player: Com3
Role playcards:              |Role playcards:
Governor: 0                  |Governor: 0
Handcards:                   |Handcards:
096 055 047 101              |085 083 082 089
                             |
Table:                       |Table:
002                          |003
                             |
Product position:            |Product position:
                             |
                             |
Under the Chapel: 000        |Under the Chapel: 000
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```