

Card Game

三国殺



Cards (1/3)

行動牌
Action Card




功能牌
Function Card







Cards (2/3)



Action Card	Description	Enum
殺牌 	<ul style="list-style-type: none">給與對方100點傷害。共15張。	Card.Attack
擋牌	<ul style="list-style-type: none">抵擋對方的攻擊，使對方的攻擊無效。共15張。	Card.Defense
補藥牌	<ul style="list-style-type: none">回復生命值100點。共6張。	Card.Heal

Function Card	Description	Enum
消除牌 	<ul style="list-style-type: none">除去對方一張手卡或一張裝備中的增益牌。共3張。	Card.Repeal
搶奪牌	<ul style="list-style-type: none">奪去對方一張手卡或一張裝備中的增益牌。共3張。	Card.Grab

Cards (3/3)

Func Card - Buff Card	Description	Enum
敏捷牌 	<ul style="list-style-type: none"> 裝備時，每個回合可攻擊次數增加一。 共3張。 	Card.Agility
戰斧牌 	<ul style="list-style-type: none"> 在裝備時作出攻擊，有一定機率使出不可抵擋的《貫穿攻擊》。 當《貫穿攻擊》與《盾擊》同時出現時，雙方的攻擊會被抵消。 共3張。 	Card.Axe
生命之鎧牌 	<ul style="list-style-type: none"> 裝備時，生命值及最大生命值各增加100點。 卸除後，最大生命值回復正常值。如生命值大於原本最大生命值時，生命值減少至原本最大生命值。如生命值不大於原本最大生命值，生命值保持不變。 共3張。 	Card.Vitality
戰盾牌 	<ul style="list-style-type: none"> 在裝備時作出抵擋，有一定機率使出能免除傷害的《盾擊》。 當《貫穿攻擊》與《盾擊》同時出現時，雙方的攻擊會被抵消。 共3張。 	Card.Shield

Heroes (1/2)



Name	Max HP	Ability	Abstract Class
張飛	4	<ul style="list-style-type: none">在出牌階段，可以作出兩次攻擊。	HeroZhangFei
趙雲	4	<ul style="list-style-type: none">在出牌階段，只要有“擋牌”也能作出攻擊。受到攻擊時，只要有“殺牌”也能作出抵擋。	HeroZhaoYun
馬超	4	<ul style="list-style-type: none">攻擊時一定機率使出《貫穿攻擊》。	HeroMaChao
夏侯惇	4	<ul style="list-style-type: none">抵擋時，一定機率使出《盾擊》。	HeroXiaHouDun
周瑜	3	<ul style="list-style-type: none">在抽牌階段抽三張卡牌。	HeroZhouYu

Heroes (2/2)



Name	Max HP	Ability	Abstract Class
黃蓋	4	<ul style="list-style-type: none"> 出牌階段，當生命值高於最大生命值的1/2時和手牌數量少於8時，可以用1/4生命值來換取兩張卡牌。 在出牌階段，呼叫 spec()。 	HeroHuangGai
張遼	4	<ul style="list-style-type: none"> 抽牌階段，可以放棄抽牌，改為搶奪守方一張手牌。 在抽牌階段，呼叫 spec()。 	HeroZhangLiao
甘寧	4	<ul style="list-style-type: none"> 出牌階段，可以將【增益牌】或【補藥牌】轉換成【消除牌】。 在出牌階段，呼叫 spec(Card)。 	HeroGanNing
許褚	4	<ul style="list-style-type: none"> 抽牌時，可以少摸一張片牌，而在一個回合內攻擊力增倍及傷害減半。 在抽牌階段，呼叫 spec()。 	HeroXuChu

Game Modes



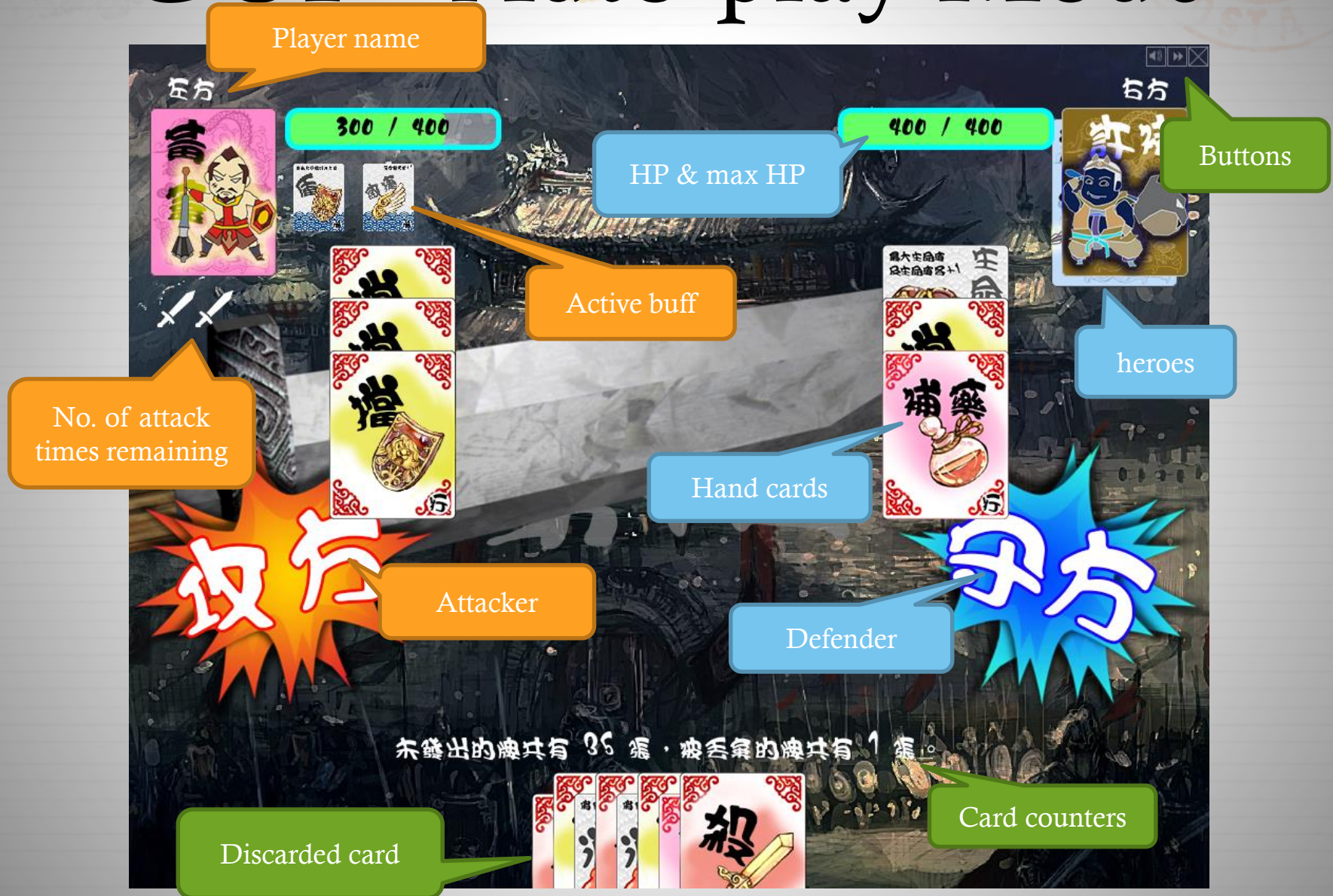
✧ Auto-play Mode

- ✧ Computer to computer mode.
- ✧ runs with pre-implemented heroes.

✧ P2C Mode

- ✧ Player to computer mode.
- ✧ You need to act manually.

GUI – Auto-play Mode



GUI – P2C Mode

Buttons



Buttons

Start the game



- ✦ Simply import the Kingdom project into Eclipse, and run it as Java Application.
- ✦ You may respectively mute the sound, change the speed, and quit the game by using the buttons at the right top corner.



Changing Heroes



- ✦ Open Kingdom.java, and change the lines in Main method as follow.

```
public static void main(String[] args) {  
    GameMaster master = GameMaster.getInstance();  
  
    master.setPlayer(0, "左方");  
    new DummyXiaHouDun().join(0);  
    new DummyZhangLiao().join(0);  
    new DummyZhouYu().join(0);  
  
    master.setPlayer(1, "右方");  
    new DummyGanNing().join(1);  
    new DummyZhaoYun().join(1);  
    new DummyZhangFei().join(1);  
  
    master.start();  
}
```

Replace the
classes by
your hero
classes

Start with P2C Mode

- ✧ Open Kingdom.java, and change the lines in Main method as follow.

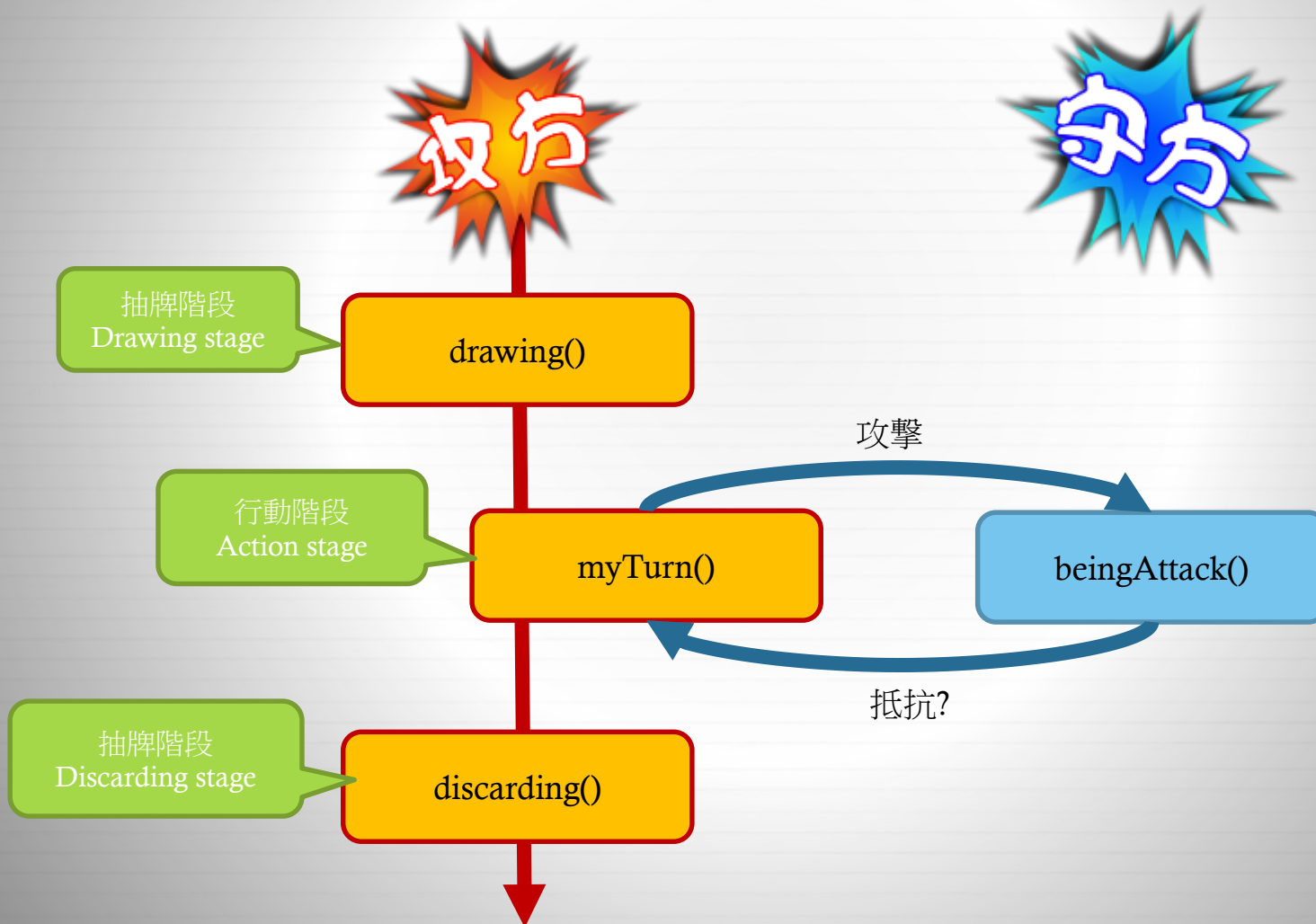
```
public static void main(String[] args) {  
    GameMaster master = GameMaster.getInstance();  
  
    master.setPlayer(0, "左方");  
    new Manual("HeroHuangGai").join(0);  
  
    master.setPlayer(1, "右方");  
    new DummyXuChu().join(1);  
    new DummyHuangGai().join(1);  
    new DummyMaChao().join(1);  
  
    master.setVisible(1, false);  
  
    master.start();  
}
```

Hide the opponent's hand card. The game then becomes more exciting.

Replace the parameter string if you want to use another hero:

HeroGanNing
HeroHuangGai
HeroMaChao
HeroXiaHouDun
HeroXuChu
HeroZhangFei
HeroZhangLiao
HeroZhaoYun
HeroZhouYu

Stage & Flow



Implemented Heros (Samples)



名稱	Class Name
甘寧	DummyGanNing
趙雲	DummyZhaoYun
馬超	DummyMaChao
黃蓋	DummyHuangGai
許褚	DummyXuChu
夏侯惇	DummyXiaHouDun
周瑜	DummyZhouYu
張飛	DummyZhangFei
張遼	DummyZhangLiao

How to start...



- ✧ Implement your own hero classes
 - + Each hero class must inherit one of *HeroXXXX* classes.
 - + Implement all following functions:
 - ✧ *drawing ()*
 - ✧ *myTurn ()*
 - ✧ *beingAttack ()*
 - ✧ *discarding ()*

Drawing



✧ *drawing()*

✧ Drawing logic.

✧ For most of heroes, you should call *draw()*.

✧ For 張遼 and 許褚, you may consider to call *spec()* or *draw()*.

Action



✦ *myTurn()*

✦ The action logic.

✦ You may call:

✦ *use(Card)* – use a specific card.

✦ *debuff(Card)* – remove a specific equipped buff card.

✦ *spec (...)* – use Hero's ability – 黃蓋 & 甘寧 only.

Use(Card)

- ✦ To attack – `use(Card.Attack);`
- ✦ To defense – `use(Card.Defense);`
- ✦ To heal – `use(Card.Heal);`
- ✦ To equip Shield buff card – `use(Card.Shield);`
- ✦ To grab an opponent's hand card – `use(Card.Grab);`
- ✦ To grab an opponent's equipped Shield buff card
– `use(Card.Grab, Card.Shield);`
- ✦ To repeal an opponent's hand card – `use(Card.Repeal);`
- ✦ To repeal an opponent's equipped Shield buff card
– `use(Card.Repeal, Card.Shield);`
- ✦ To remove your equipped Shield buff card – `debuff(Card.Shield);`

****Replace Shield by
other buff card name for
other buff cards*

Being Attack



✧ *beingAttack()*

- ✧ Invoked if the competitor attacks you.
- ✧ You may call *use(Card.Defense)* to defense.
 - ✧ When 趙雲 does not have a defense card, he still can defense if he has an attack card.
 - ✧ Call *use(Card.Defense)* even if no defense card.

Discarding



✦ *discarding()*

- ✦ Attacker has to discard excessive hand cards.
- ✦ Calculating the number of hand cards can be held:
 - ✦ *numOfCards = (int) Math.ceil(0.01 * HP)*
 - ✦ For example, if your HP is 390 points, the number of cards can be held is $0.01 * 390$ and then take the maximum integer value. So, you can keep 4 cards.
- ✦ You may:
 - ✦ Call *discard (Card)* to discard a specified hand card.
 - ✦ E.g. Discard a heal card:
discard(Card.Heal);
 - ✦ Or let the system to handle it. But important cards may be discarded.

Test Your Heroes



- ✧ Implement your own heroes.
- ✧ Then run the game in P2C mode to test the responds of your heroes.

```
public static void main(String[] args) {  
    GameManager master = GameManager.getInstance();  
  
    master.setPlayer(0, "手動");  
    new Manual("HeroHuangGai").join(0);  
  
    master.setPlayer(1, "測試");  
    new YourXuChu().join(1);  
  
    master.start();  
}
```

Assume the class
name of your own
hero is **YourXuChu**

Functions Provided by Your Hero

Function Name	Description
countBuffs()	Returns the number of buff cards you are equipping.
countHandCards()	Returns the number of hand cards you have.
countHandCards(comp.Card card)	Returns the number of the specific type of hand card you have.
deactivate(Card buff_card)	Deactivate a specific active buff card.
discard(comp.Card card)	Discards a specific card.
draw()	Draws cards.
getAttackTimes()	Returns the number of your remaining attack times.
getBuffList()	Returns a list of your equipped buff cards.
getHp()	Returns your current HP.
getMaxHp()	Returns your current max HP.
isActive(Card card)	Returns true if the specific buff card is active.
join(int index)	Joins the game
use(comp.Card card)	Uses a specific card.
use(comp.Card card, comp.Card targetCard)	Uses a specific card.

Functions Provided by Game Master

Function Name	Description
countDiscardedCards()	Returns the number of discarded cards.
countFuncCards()	Returns the number of function cards.
countNonReleasedCards()	Returns the number of cards that are not released yet.
countOppBufs()	Returns the number of buff cards the opponent is equipping.
countOppHandCards()	Returns the number of the opponent's hand cards.
getInstance()	Returns the instance of the game master.
getOppAttackTimes()	Returns the number of remaining attack times of the opponent.
getOppBuffList()	Returns a list of the equipped buff cards of the opponent.
getOppHp()	Returns the opponent's current HP.
getOppMaxHp()	Returns the opponent's current max HP.
isActiveOpp(Card card)	Returns true if the specific buff card at opponent side is active.
countOppHeroes()	Returns the number of heroes your opponent has.

More Details about Functions

✦ Browse the API document at

<http://www.comp.hkbu.edu.hk/~mandel/kingdom/>

Implementation Hints – myTurn ()

- ✦ Check cards on your hand
→ *countHandCards()*, *countHandCards(Card card)*
- ✦ Count the hand cards of your opponent
→ *master.countOppHandCards()*
- ✦ Check self HP and max HP → *getHp()*, *getMaxHp()*
 - ✦ Consider to heal yourself → *use(Card.Heal)*
 - ✦ Requires Heal card (補藥牌)
- ✦ Check opponent's HP and max HP → *master.getOppHp()*, *master.getOppMaxHp()*
 - ✦ Consider to attack → *use(Card.Attack)*
 - ✦ Requires Attack card (殺牌)

Implementation Hints – myTurn ()

- ✦ Check your active buffs
 - *getBuffList ()*, *isEquipping(Card buffcard)*
 - ✦ Consider to use a buff card on hand → *use(Card buffCard)*
 - ✦ Consider to remove an active buff
 - *debuff(Card buffCard)*
- ✦ Check opponent's buffs
 - *master.getOppBuffList ()*, *master.isEquipping(Card buffCard)*
 - ✦ Consider to repeal an active buff of your competitor
 - *use(Card.Repeal, targetBuffCard)*
 - ✦ Requires Repeal card (消除牌)
 - ✦ Consider to grab an active buff of your competitor
 - *use(Card.Grab, targetBuffCard)*
 - ✦ Requires Grab card (搶奪牌)

Implementation Hints – myTurn ()

✦ Consider to repeal one of opponent's hand cards
→ use *(Card.Repeal)*

✦ Requires Repeal card (消除牌)

✦ Consider to grab one of opponent's hand cards
→ use *(Card.Grab)*

✦ Requires Grab card (搶奪牌)

Implementation Hints – discard ()



1. Check cards on your hand
→ *countHandCards(), countHandCards(Card card)*
2. Check self HP → *getHp()*
3. Check active buffs
→ *getBuffList(), isEquipping(Card buffCard)*
4. Select cards to discard → *discard(Card card)*

Console Output

...

第 3 回合。

由【左方】作為攻方。

【左方】可攻擊 1 次。

【左方】許褚回復正常。

【左方】許褚強化。

【左方】得到【抵擋牌】。

未發出的牌共有 35 張，被丟棄的牌共有 8 張。

【左方】的【敏捷牌】被取出。

【敏捷牌】掉到回收區。

未發出的牌共有 35 張，被丟棄的牌共有 9 張。

【左方】可攻擊 0 次。

第 4 回合。

由【右方】作為攻方。

【右方】可攻擊 1 次。

【右方】得到【敏捷牌】。

未發出的牌共有 34 張，被丟棄的牌共有 9 張。

【右方】得到【抵擋牌】。

未發出的牌共有 33 張，被丟棄的牌共有 9 張。

【右方】受傷。

【右方】的血量為 169/400。

【右方】得到【抵擋牌】。

未發出的牌共有 32 張，被丟棄的牌共有 9 張。

【右方】得到【抵擋牌】。

未發出的牌共有 31 張，被丟棄的牌共有 9 張。

...

Attention



- ✧ After round 20 (by default), lightning occurs!
- ✧ Both heroes will get hurt.

打雷！相方受到40的雷擊傷害。