Introduction to Go

Contents

1.1 The origin of Go

Go is an intellectual game which originated in China and eventually spread to the rest of East Asia, and Gradually spread to the World. The invention of Go is arguably one of the most valuable contributions China made to the richness of the world's civilizations. According to a Chinese myth, Go was invented by the Emperor Yao. Historical evidence however indicates the earliest record of Go playing took place around 548 BC.
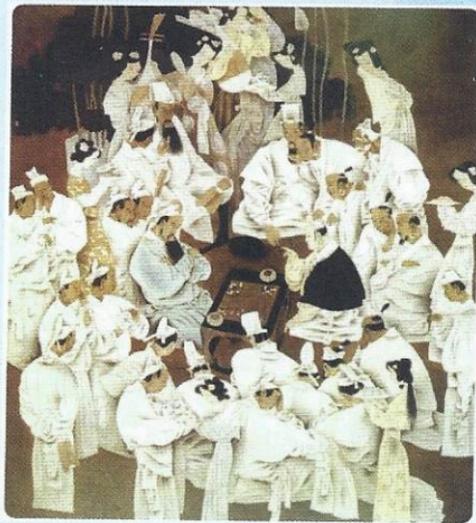
The Picture of Ancient Chinese Go game
Lausanne Historical Museum, Switzerland

1.2 The origin of Go

Go was transmitted to the Korea peninsula during China's Han dynasty. A few hundred years later during the Tang dynasty Japanese ambassadors to China introduced the game to Japan.

As a result of frequent cultural exchange, Go spread across East Asia and came to be esteemed highly by the people of all the countries there.

Currently Go enjoys the largest following in China, Japan and South Korea where it is played on a professional level among the top masters.

This antique board preserved in a museum of Japan is a gift to the Japanese Nation from the Empire of Tang Dynasty.
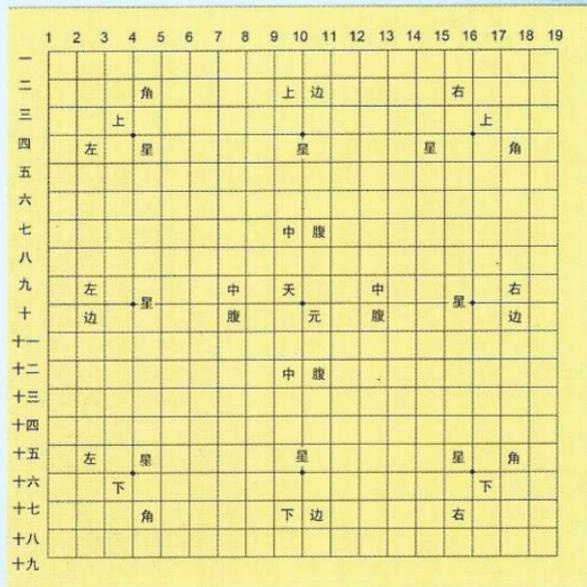
2.1 Go Board and Stone

- The equipment to play Go is very simple. All you need are a Go Board and the stones. Usually the stones are stored inside a bowl.
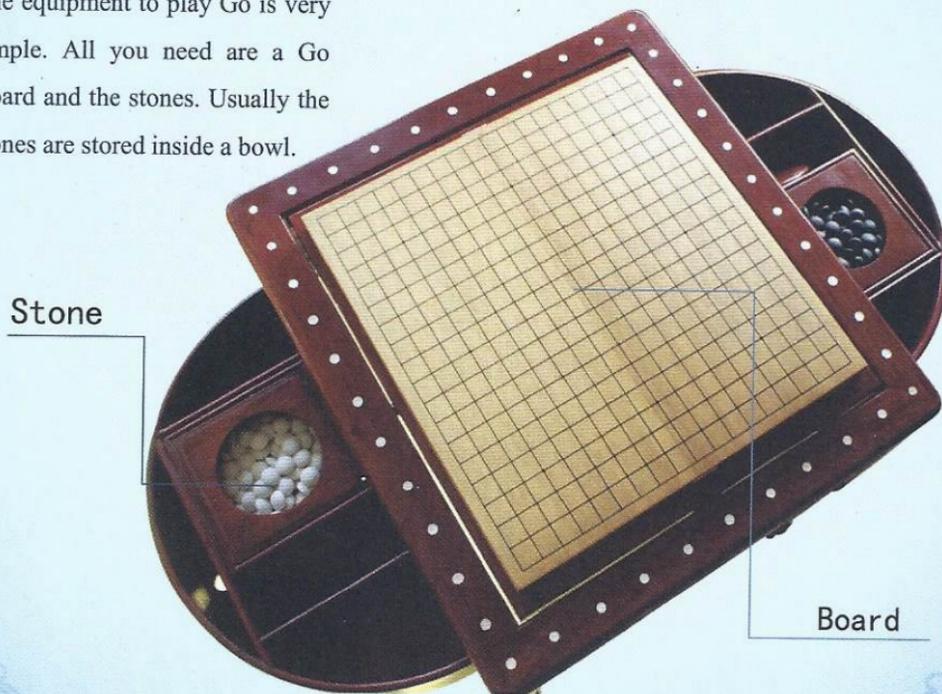
Stone
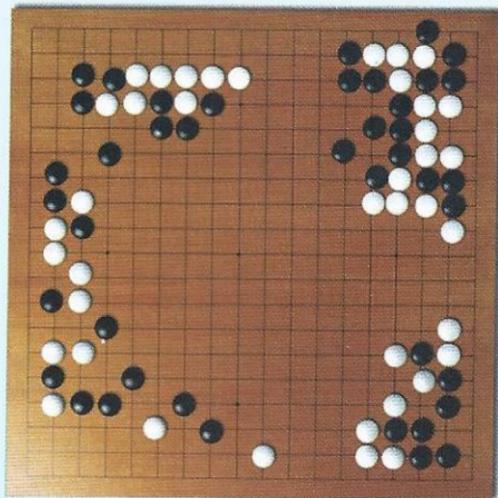
Board

● 2.2 Go Board and Stone

The typical Go board is a coordinate grid of 19*19 lines. When placing the stone on the board one is to put it on the intersection points of the lines, not on the squares. There are a total of 361(19*19) intersection points on the board. In order to help players locate the points on the board, nine points are marked out some of which are assigned special names. The four points at each corner are called "stars." The center point is called "Tengen"(Heavenly Source).

The board can be divided into nine parts: four corners are lower right corner, upper right corner, lower left corner and upper left corner; Four sides are upper side, lower side left side and right side. Beside the corners and sides are the center territory.

2.3 Go Board and Stone

The Go stones are divided into two colors: Black and White. A Go set has 181 black stones and 180 white stones. Each player chooses either black or white stone and plays alternatively in turn. *The stones must be placed on the intersecting points
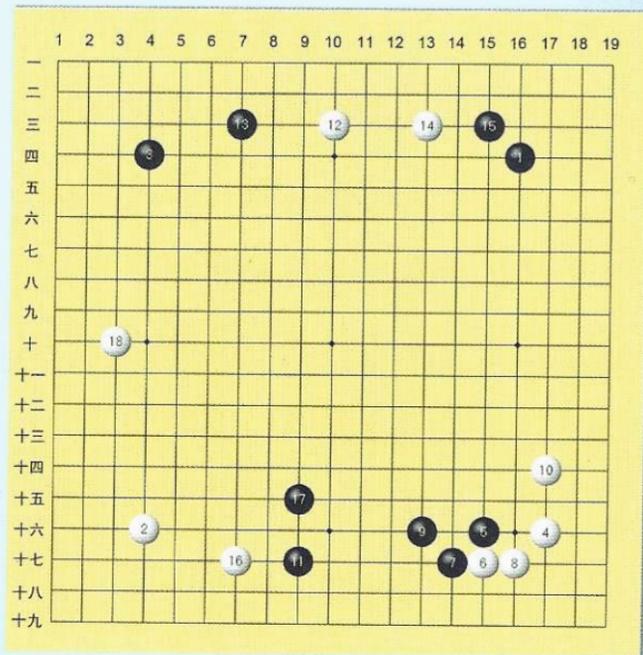
3.1 The rules of Go

- **The Basic rules of Go :**

The basic rules require Black to play first (except in a handicapped

game) , followed by white, each in turn making a play on the intersecting

points of the board. A stone is not allowed to be moved around after it is

placed on the board.

3.2 The rules of Go

- **The rule of playing:**

  Here Black moves first, black 1 occupying upper right corner, white 2 occupying lower left corner, black 3 occupying upper left corner. Black 5 attacks white 4, each player defends and attacks until the game ends.

3.3 The rules of Go

● **How to determine Victory**

As shown in the diagram, black occupies the left field, and white occupies the right field on the board (This kind of neat situation is rare in a real game). Both black and white have occupied all the intersections. There are no more intersections which can be contested. Thus now we can determine who wins the game.
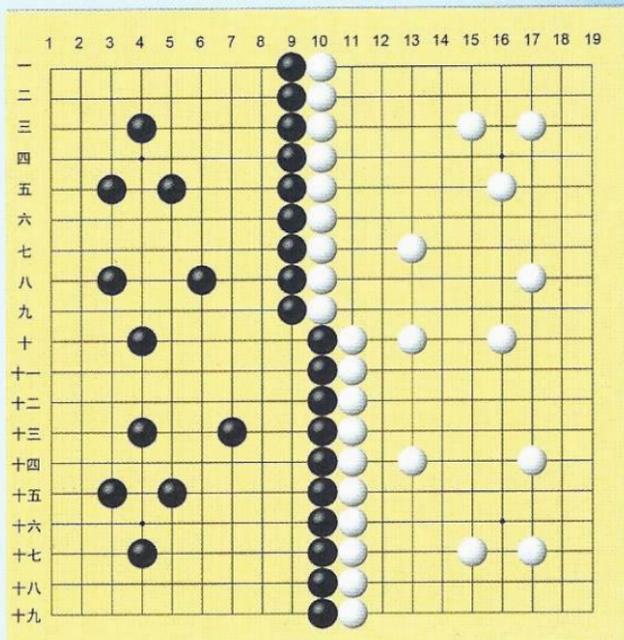
# 3.4 The rules of Go

- **How to Determine Victory:**

How do we determine victory when the game ends? How do we judge who is the winner and who is the loser? In brief, the one with more territory wins, and the one with less territory loses.

There are 361 intersections on the board. The outcome of a game is determined by the amount of intersections that one occupies. There are different ways to count the amount of intersections in Go; the most widely used rules are Chinese stone counting, Ing Go rule and Japanese-Korean "moku" counting rule.

4.1 Liberty and eye

- **Liberty:**

In Go, the life of a stone depends on its "liberties." You must understand what is a "liberty" before attacking. A "Liberty" denotes an empty intersection point which is adjacent vertically or horizontally to a stone on the board.
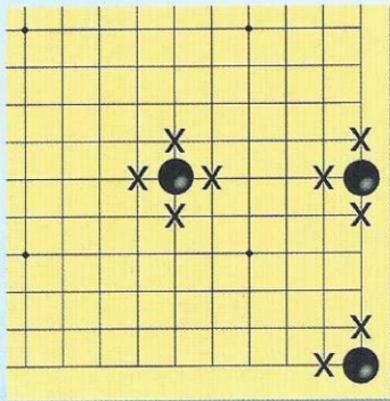

In the diagram, the stone on the corner has two liberties, the stone on the side has three liberties, and the central stone has 4 liberties. Alone stone has 4 liberties at most, but it is a different case for two or more connected stones.
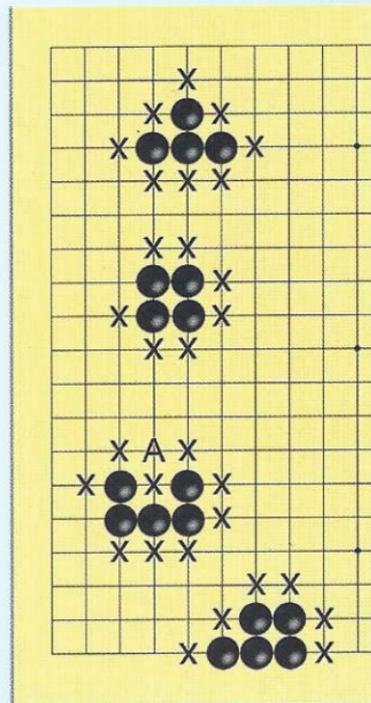
4.2 Liberty and eye

- **Liberty:**

As shown in the diagram, the two connected stones on the corner have three liberties, the ones on the side have four liberties, and the central ones have six liberties. As we can see from the diagram, the number of liberties is affected by the position of the stones on the board. The central stones have more and the corner or side stones have fewer liberties. Since a stone must have liberties to live, the stones with fewer liberties are in a greater danger if they are surrounded by the opponent's stones in the game.
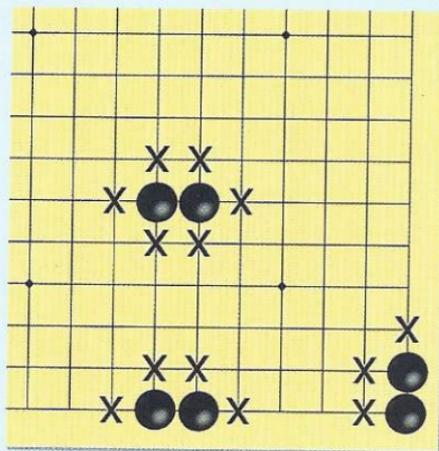
4.3 Liberty and eye

- **Liberty:**

The number of liberties for two or more connected stones depends on their position and shape. In the diagram, the four top stones have eight, the four squared stones have ten, and the five side stones have only six liberties. Why doesn't the A point count for a liberty? Because A point is not adjacent to the five stones *vertically nor horizontally.*
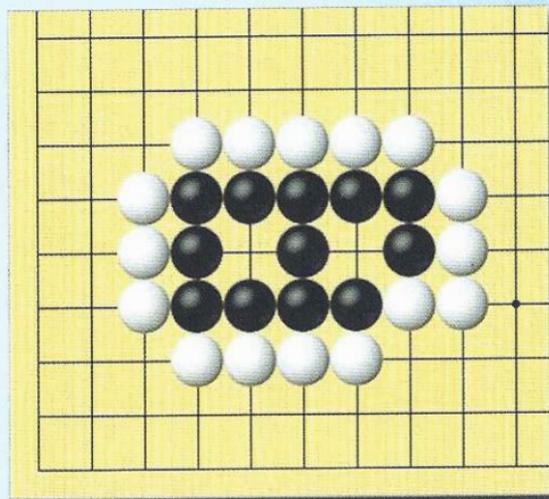
4.4 Liberty and eye

- **Liberty:**

It is natural that as the game progresses the empty intersections will

no longer count as liberties when the opponent occupies them. Therefore,

the calculation of liberties becomes complicated when the black and

white stones touch each other closely or when one side completely

surrounds the other.

4.5 Liberty and eye

• What is Eye?

The eye is the empty space that is surrounded by stones with the same color. There are "true" eyes and "false" eyes. The life and death of a group of surrounded stones is determined by whether it possesses two "true" eyes or not.


The surrounded black has two true eyes, which is the basic live shape.

# 4.6 Liberty and eye

- **False eye:**

In the diagram, it seems that the black has two eyes at Point A and 1. Actually the three black stones in the upper-right have no liberties. All the black stones are dead once white places stone on point 1 which captures the three stones and accordingly destroys the "eye." We thus call such an eye a "false eye."
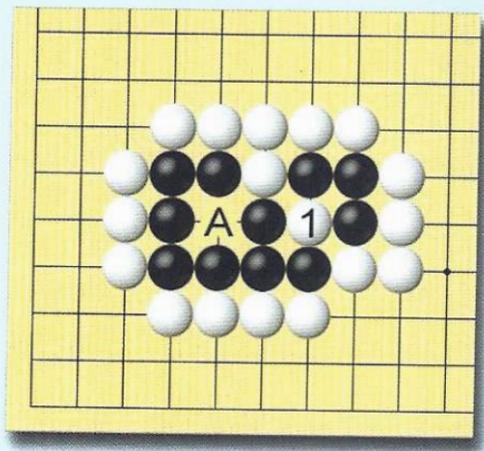
4.7 Liberty and eye

- **Basic condition for Eye:**

The basic living eye shapes are shown in the diagram: the central four stones, the side three stones and the corner two stones. Each group has one eye.
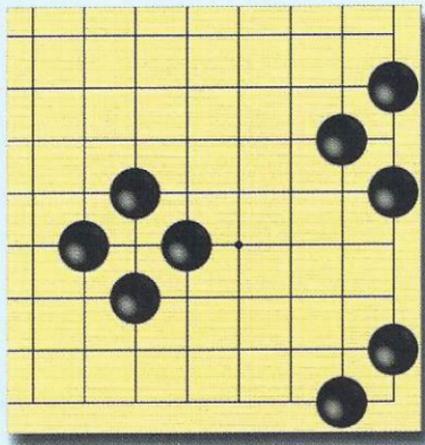
5.1 Capture stone

- **Capture stone:**

In Go terms, Removal is also called Capture. This happens when one or more stones completely lose their liberties (which means all the points adjacent to the stones are occupied.) Stones without liberties must be removed from the board. This process is called Capture. It is not allowed for stones without liberties to be present on the board. When they lose all liberties, the stones are to be removed from the board at once.
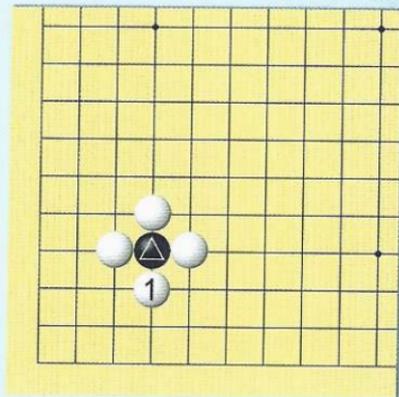
Black △ loses its liberty after white 1 move. So black △ has to be removed.
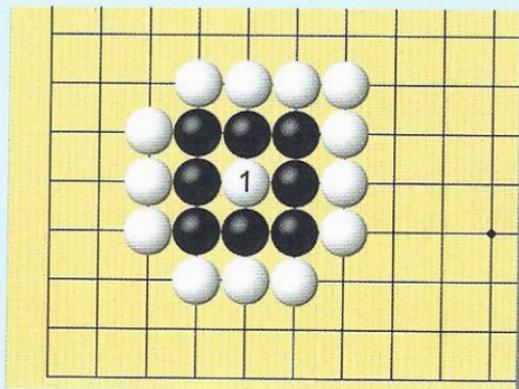
5.2 Capture stone

- **Capture stone:**
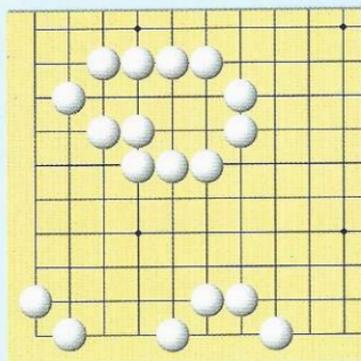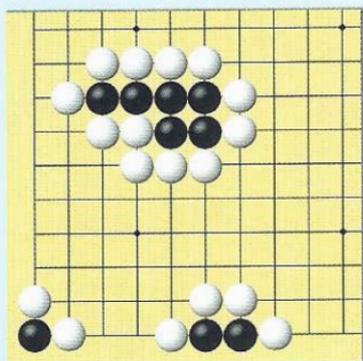
In the left diagram, all the black stones must be removed because they have no liberties. The right diagram shows the capturing of black stones by white after the removal. Stones without liberty are called "dead" stones. Only the dead ones can be removed. As long as stones have at least one liberty however they cannot be removed.
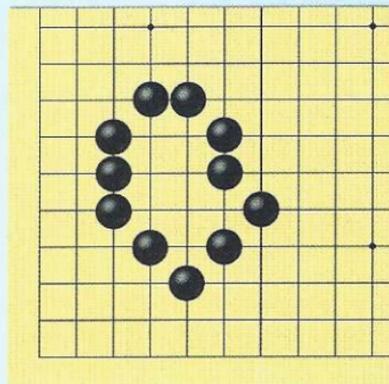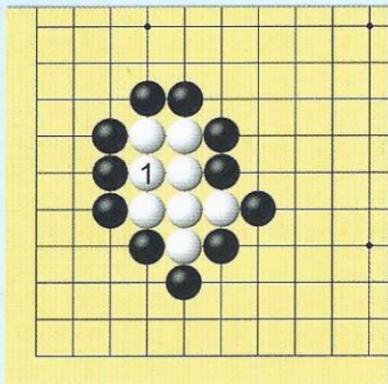
⬤ 5.3 Capture stone

- **Special cases:**

Two special cases on capturing needs to be noted. As shown in the diagram, when one puts a stone on the board so that stones on both sides lose all liberties, the player who puts down the stone first gets to capture the other side's stones and remove them from the board.

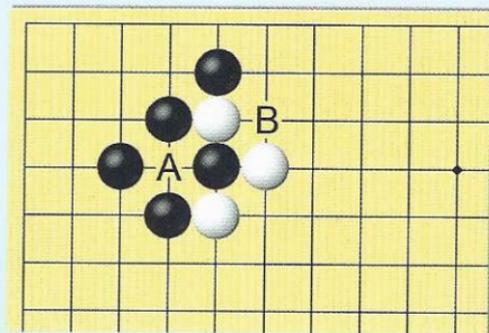# 5.4 Capture stone

- **Special case:**

Another situation: White 1 fails to capture any black stone but rather deprives White's stones of their last liberty.

White should remove all the white stones after white 1. After that, it is black's turn.

6.1 Ko

- **What is Ko?**

Here Black and white have surrounded each other in an intense fight; white can capture

a black stone by placing on A on its turn. If it is black's turn, black can also capture a

white stone by placing on B. In this case, it is called Ko.

6.2 Ko

● **What is Ko?**

White captures black by playing at A, but Black also can capture White's capturing stone by playing at B immediately. But then white can recapture, then black does the same, and so on. There is no end to this if both players insist on playing in these same spots.
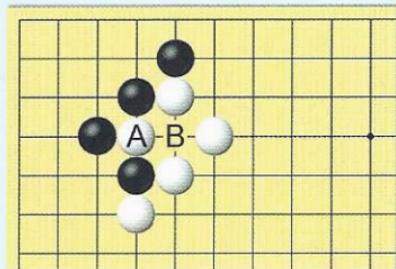

According to the rule of Ko, if a player captures some stones and creates a situation in which the opponent can immediately recapture the capturing stone, the opponent in that case is forbidden to make an immediate recapture; he has to play somewhere else and wait a turn before he can come back and play there.

●6.3 Ko

● **Type of Ko:**

The right-hand diagram illustrates a single Ko position, which is small value.

"Ko" has many forms, some are quite complex. Although we only presented the most simple one here, we must pay attention to the form of it to understand the complex ones.
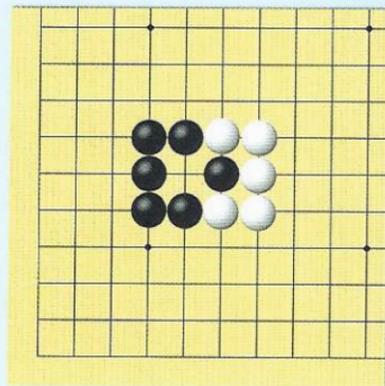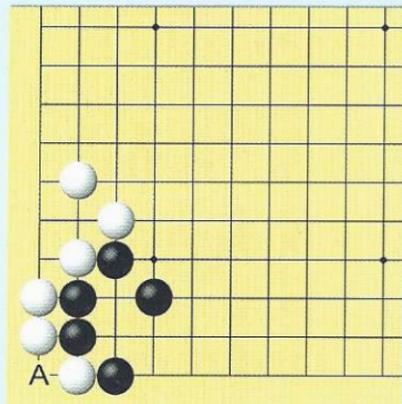
6.4 Ko

- **Type of Ko:**

This diagram shows a sample for that both black and white are fight for A. The value of A is so big for both sides because black can capture two stones by placing on B if black win the Ko fight. But if white win the fight it can capture black by placing on B.
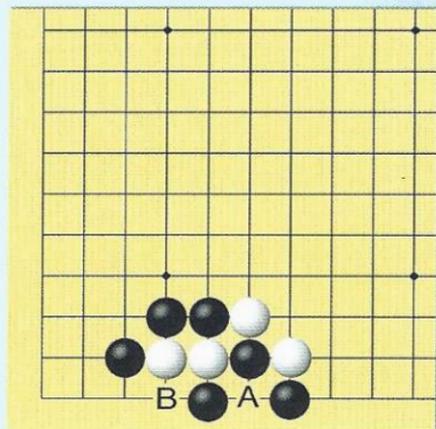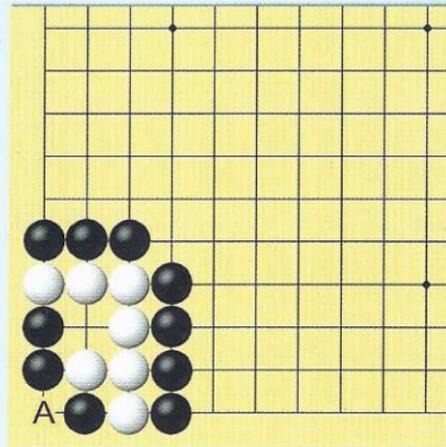
6.5 Ko

- **Type of Ko:**

The forms of Ko are quite diverse. This diagram also shows a ko fight at A.

6.6 Ko

- **Type of Ko:**

The ko fight at A in the right-hand diagram will determine the life and death of white's stones and is therefore a quite crucial ko for White.
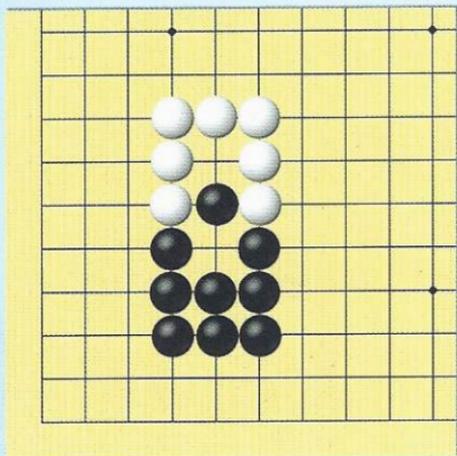
6.7 Ko

In this diagram we see a common sequence of ko fighting played out by beginners. Black 1 takes ko(⊙), White 2 is looking for "ko threats", Black 3 "ataris" white2, White 4 recaptures the ko stone(⊙), black 5 cuts which is a strong move, white 6 atari, black 7 captures the ko again, white 8 ataris two black stones, white 10 captures the ko after black 9. White runs out of ko threats, so Black wins the Ko fight after fifteen moves.

4= ◎
7=1
11= ◎

7.1 Snapback

- **Snapback:**

We got a lot of questions from many beginners. Like "Can I capture the stone here?", "Can I put my stone here?". Obviously, a lot of shapes are easily graspable through inference once you become familiar with the content of the previous lessons. But snapback is a special tactic involved in Capture.
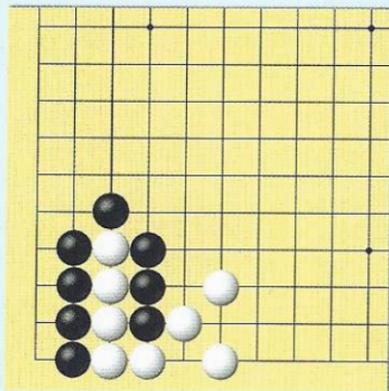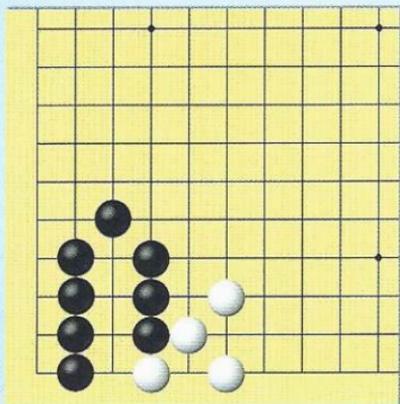
7.2 Snapback

Black and white closely surround each other and black stones only have one liberty left. White can capture the two black stones by placing on A.

What about black after white captured two black stones? Black can recapture one white stone by placing on A.

●7.3 Snapback

The white capture one black stone is shown in the right-hand diagram. This is an example of "Capture two, Return One". The definition of a "snapback" is very broad and covers any instance where two captures occur consecutively in the same area.

7.4 Snapback

Snapback mostly happens on the side and corner where "life and death" often comes into play. Because of this the side and corner are regarded as the most important area of the board for both players. In the diagram, five white stones have only one liberty and are about to be captured.

7.5 Snapback

This is the result after white recaptures black's stone which has already captured the five white stones shown before. This kind of situation where one "captures five" and the other "recaptures one" is still called snapback. There are no precise rules which indicate whether something is a snapback or not.

7.6 Snapback

As beginners improve at the game they will soon encounter many more strange and rare shapes which defy conventional rules. Thus the only safe guide for learners is to observe carefully the liberties of the stones in order to sharpen their judgment skills in Go.

● 8.1 Throw-in

● **What is throw-in?**

Let's look at the right-hand diagram before
we talk about the throw-in.

Black 1 cut, white 2 atari. It seems black 1
will be captured after two moves.

But what is the real result? Let's continue.
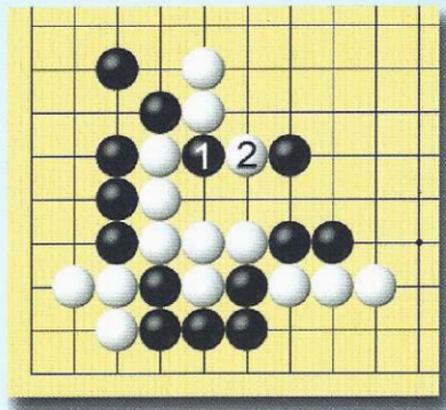
8.2 Throw-in

Black 3 ataris, white 4 takes. It's clear that those seven white stones have only one liberty on A. Now it's black's turn so he can occupy A and capture all seven white stones.

As shown above, the way of sacrificing one and recapturing more is called throw-in.
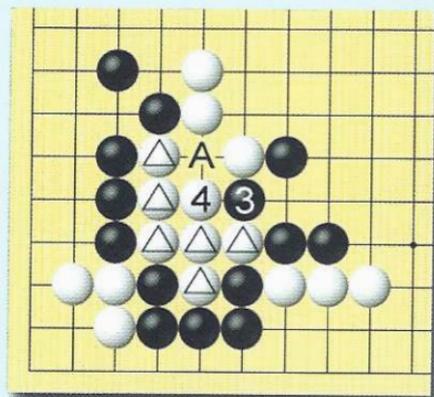
8.3 Throw-in

Here is a typical example for snapback. If white plays on A to remove black 1 then black plays back on 1, which results in more dead white stones. Throw-in is a way usually used in real game. It's fantastic when you use it well.
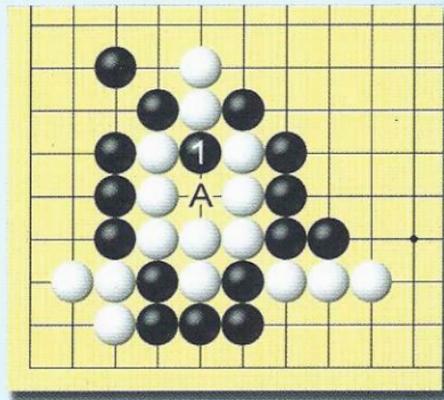
9.1 Ladder and Geta

- **Ladder:**

We often encounter this situation in the right-hand diagram. Black does not stopping at chasing white from 1 to 11 and ends up capturing all the white stones. This is a basic shape of ladder. For white, it should have stopped playing after point 2 when it sees that there is no possibility of saving the stones.
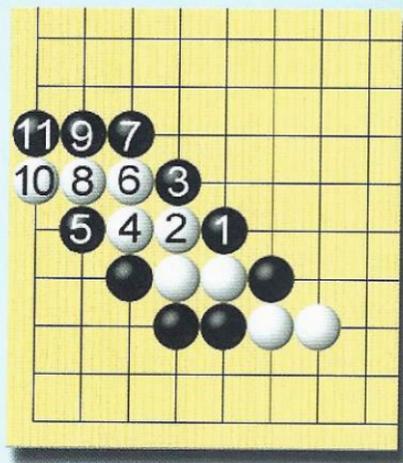
● 9.2 Ladder and Geta

● **Ladder:**

Changing the direction or the distance still will not save white. So, white should give up on escaping from the start.
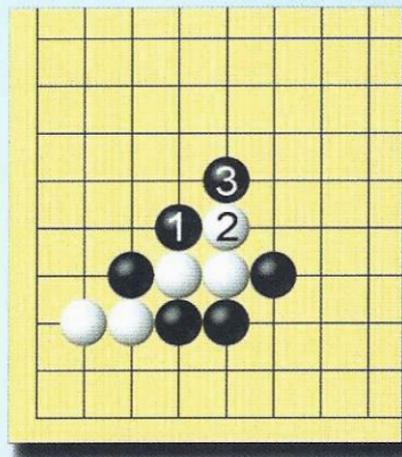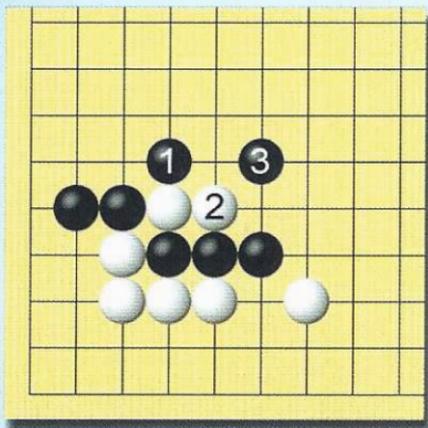
- **Ladder break:**

As shown in the diagram, white can actually escape if white Δ is present because it connects the group out of the ladder that black sets up.

We call white Δ "ladder break". Notice that when black's ladder fails his groups are in shambles and vulnerable to attack on all fronts.

9.4 Ladder and Geta

• **How to recognize a ladder?**

We learned from the upper sample that the ladder is depend on the surrounding situation.

We have to consider if there is white stone within the imaginary lines. Any present white stone in the imaginary lines will become "ladder break".
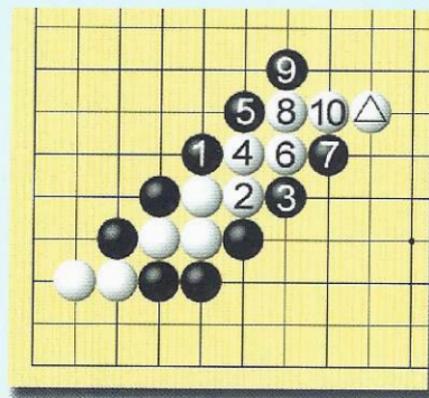
9.5 Ladder and Geta

Geta is the usual means for capturing in Go. As indicated in the diagram, the white 2 is locked after black 3 plays. White 2 can not escape, no matter how it fights.

9.6 Ladder and Geta
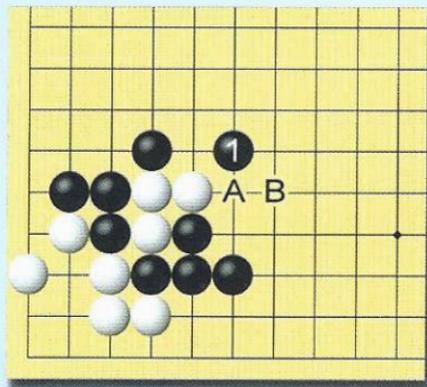
The central white stones are totally blocked when black 1 plays. White stones are still captured even white plays on A because black can block on B. Geta is used widely in real game. In different context, it has many styles such as false geta. It's necessary to graasp and use geta.

10.1 Life and Death

- **The basic shape of life:**

How do you determine life and death? As for the life and death, practice is more persuasive than the definition. Stones with two true eyes are alive. The stones that will be captured sooner or later are dead. In the left-hand diagram, the white have only one eye. White will be dead once black 1 plays. In contrast, the white in the right-hand diagram will be alive because they have two true eyes.
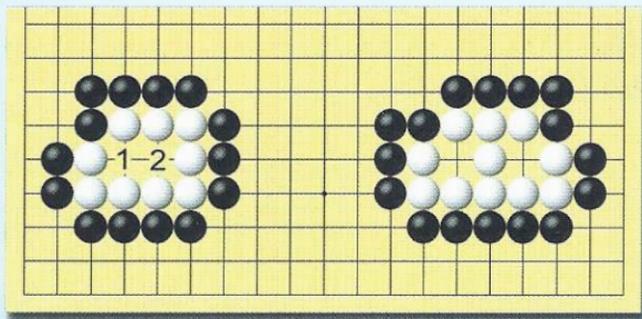
10.2 Life and Death

- ## The basic shape of life:

As shown in the diagram, the big eye with three straight intersections must have one more stone in the

middle to be alive.

The diagram is the shape of death for white if black plays on 1.
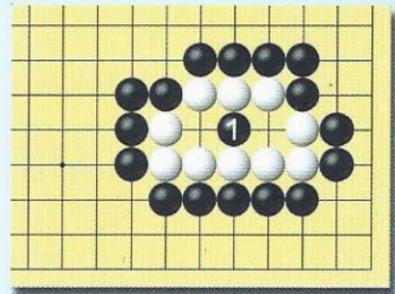
10.3 Life and Death

- **The basic shape of life:**

The left-hand diagram is a live shape "Straight four" which can make two eyes no matter where the stones are placed. The right-hand diagram is a shape for dead "For- space killable eye shape". White can not make two eyes if black play first and place the stone on 1.
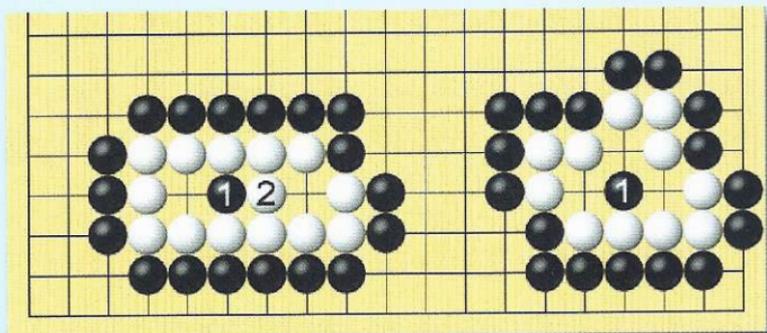
●10.4 Life and Death

● The regular pattern of life group:

- ➤ Three intersections: "Straight three" and "Bent three" are gote alive.

- ➤ Four intersections: "Straight our" and "Bent four" are alive. "Four-space killable eye shape" is gote alive. "Square four" is dead shape.

- ➤ Five intersections: "Straight five" and "Bent five" are alive. "Five-space killable eye shape" and " Bulky five" are gote alive.

- ➤ Six intersections: "Straight six" 、 "Bent six" and "Rectangular six in the corner" are alive. "Six-space killable eye shape" is gote alive.

- ➤ Seven intersections and above are all alive.

10.5 Life and Death

● **What is death group?**

There are life group and death group in Go. Let's talk about death group now.

One group of stones with same color and they have no two true eyes to make life. Eventually they will be captured. We call it death group.

10.6 Life and Death

As shown in the diagram, the surrounded stones on the corner are death group because they don't have two true eyes to make life. The death group could happen in any position of the board.
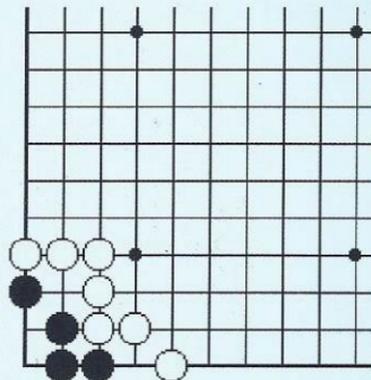
10.7 Life and Death

- The death group could be removed or remained during the game. To judge the outcome of the game, the death group have to be taken from the board. Removal of death group depends on the specific context, The death group must be removed quickly if they may escape or have threat. Otherwise, they could be removed till the last moment.
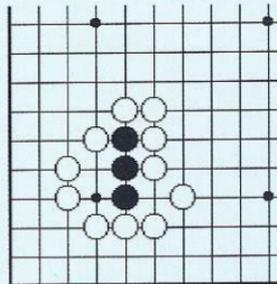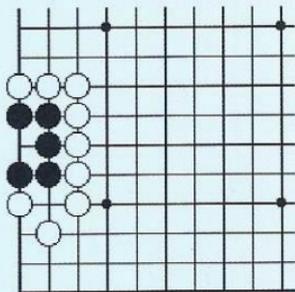
In the diagram, the black stones have no threat and they can not make life, either. The white don't have to take the black until the end.

11.1 Capture race

- ## What is capture race?

Capture race often happens in the real game. But what is capture race?
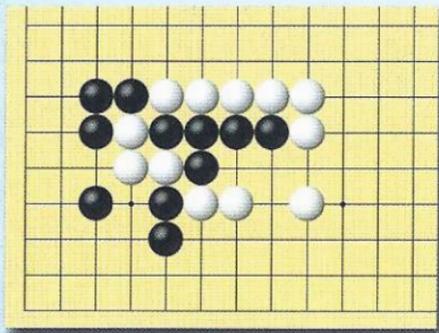
Three white stones are surrounded by five black stones. These five black stones are surrounded by other white stones. The only way to escape is " Capture race".

11.2 Capture race

Black play first. Black 1 reduce liberties, white 2 also reduce liberties, black 3 can take all three white stones. Five black stones can escape after these moves.

The result will be opposite if white play first.1
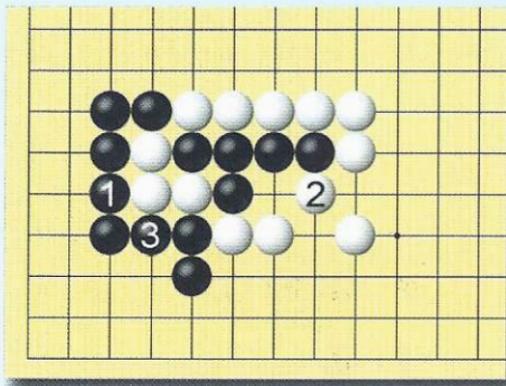
11.3 Capture race

• **The common sense of Capture race:**

More liberties beat fewer liberties. Be the first to reduce liberties of opponent.

But capture race is not just simply reducing liberties. For example, six black stones and seven white stones are capturing race. Both have five liberties, who will win if black move first?
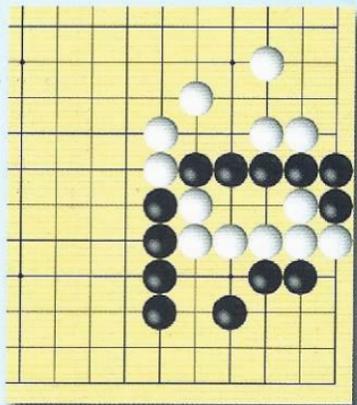
11.4 Capture race

- **Mutual liberty:**
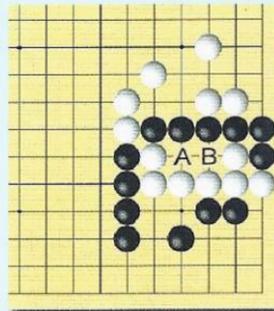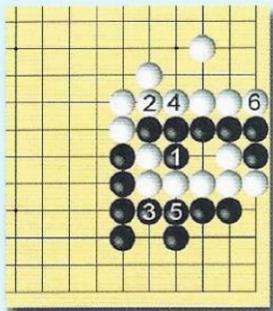
In the left-hand diagram, black 1 play first until white 6. Black is captured by white. What's wrong with it?

In the right-hand diagram, we can see that A and B are liberties for both sides, so that we call it mutual liberties which should be taken finally. Otherwise, reducing mutual liberty is equal to reduce own liberty, which will directly affect the outcome of a game.
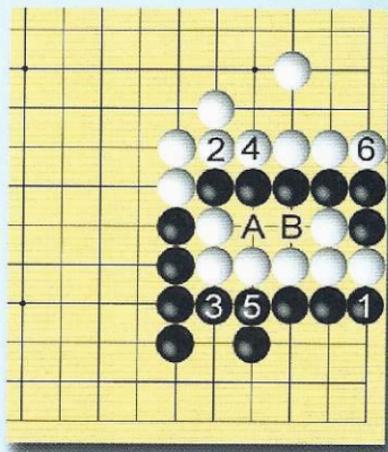
● 11.5 Capture race

● **Seki:**

Black 1 follow the rule of reducing external liberties first until white 6. In this case, no matter who place on A or B first will reduce the mutual liberties resulting in being captured.

In this situation, we call it Seki.

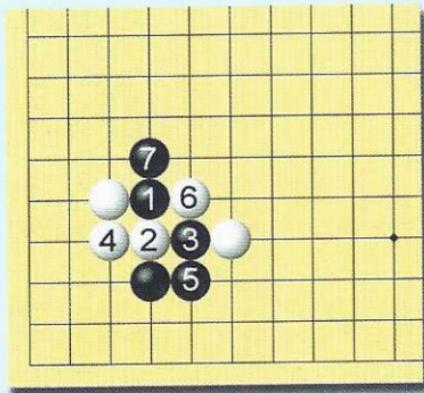There are many complex changes in the real game. We have to practice more.

◯12.1 Cut

- **Cutting:**

In Go, there's a famous saying, "Life Springs From Cut!" which means all the techniques used in the Go are derived from cut.

In the diagram, black 1 play first, each move from black or white includes the cut which is an important way in the game.
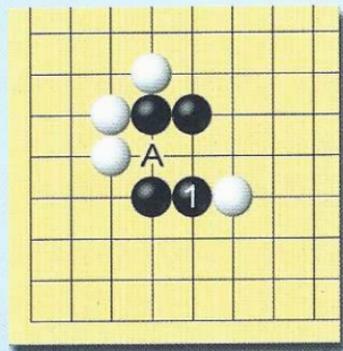
● 12.2 Cut

● **Cutting:**

The four lower white stones are surrounded by black. White 1 is an excellent move to escape because there are double atari on A and B.

To avoid this situation, black should have connected on point 1 before white placed there. We will learn to connecting next.

12.3 Cut

- **Connecting:**

Connecting is very important in the real game. You will have huge loss if your enemy cut on the point.

For black, playing on point 1 is the basic way to connect.

12.4 Cut

- **Connecting:**

As shown in the diagram, black's playing on point 1 is also usually used for connecting. The shape of black stones look like a tiger mouth.
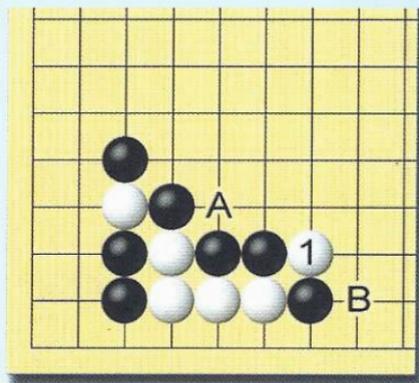
●12.5 Cut

- **Connecting:**

We call black 1 "bamboo joint", also usually be used for connecting.

Black increase white stone's pressure while connecting.

Basic Exercise

There are a total of more than 500 Go terms some of which we are going to deal with now.. Some common terms were complied for beginners below. More advanced terms will be learned later as the player progresses at the game.

White turn, which surrounded black is dead?
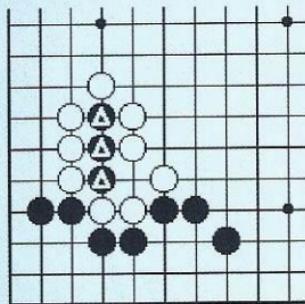
Diagram 1
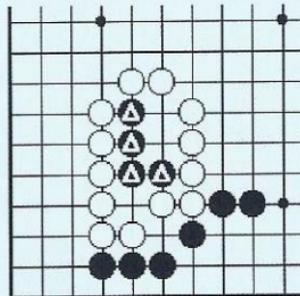
Diagram 2
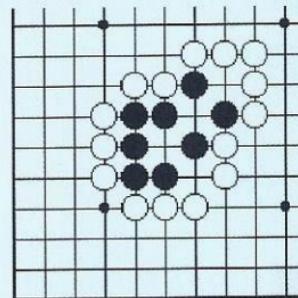
Diagram 3

Basic Exercise-1 Answer

The enclosed three black stones must be removed quickly. As the black stones beyond the surrounding threaten the white stones. If white does not capture the three black stones, one black stone is placed on point A, which will result in two dead white stones (shown as Δ). So now the three black stones can escape. In diagram 2 and 3, the surrounded black stones are not necessarily removed as soon as there are no black stones that can threaten white.
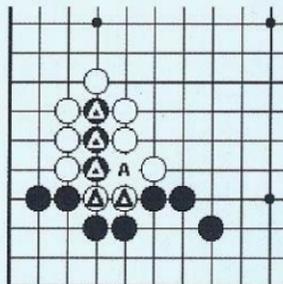
Basic Exercise- 2
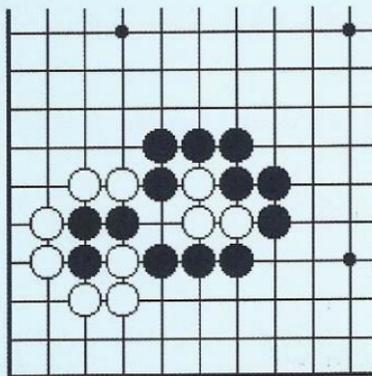
White's turn. It's not a problem to remove three black stones, but can black snapback white stones? Please place the diversification.
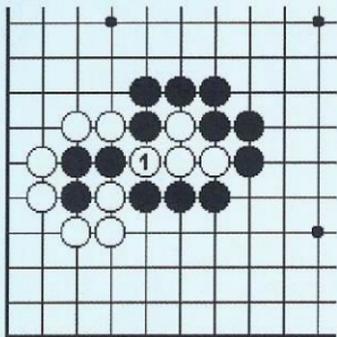
Basic Exercise- 2 Answer

Diagram 1

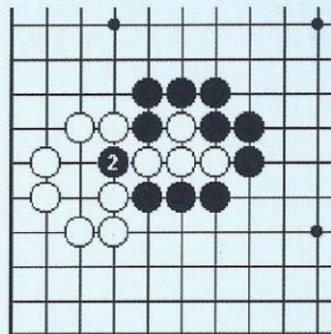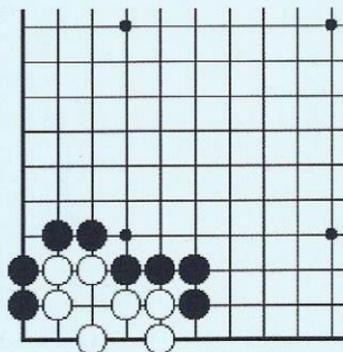**White 1 can capture three black stones.**

Diagram 1

Black 2 can snapback four white stones.

- **Black's turn:**

  Can black threaten white's eye in this diagram?
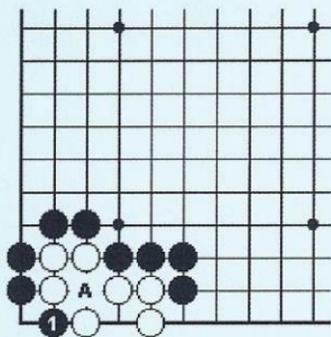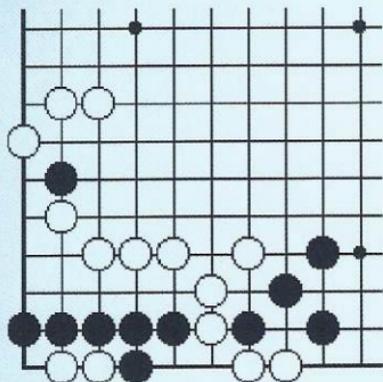
Answer

Black 1 is using Ko fight to threaten white eye. White group will dead if white place on A.
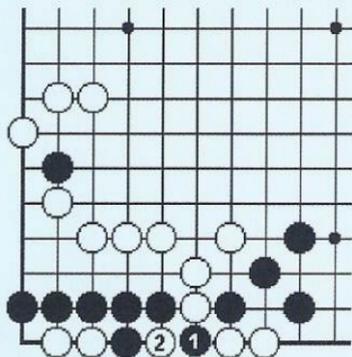
Basic Exercise- 4

- Black's turn:

Black has no two true eyes if you have learned life and death. Is there any other chances for black to alive?

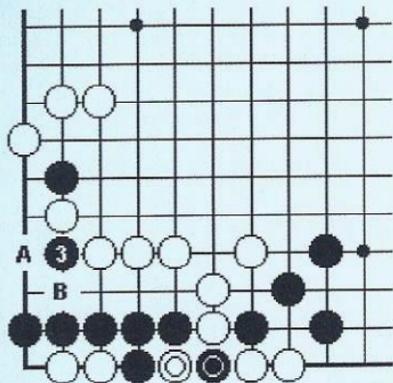Black must use the kozai to have a Ko fight to alive. Please answer the question within twenty minutes.

Answer 1

Black use Ko fight to be alive. Black 1 throw in, white 2 capture ko. How to end this? It depends on how many ko threats do they have.

Answer 2

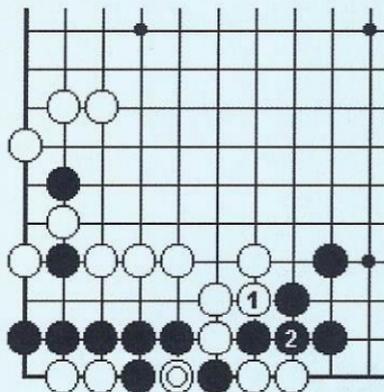Black 3 is an excellent move. Whether white places on A or B, black can recapture the ko. (it's about the kozai.)

White 1 is a kozai, so that black must place on 2. Black group will be still dead if black won't place on 2.
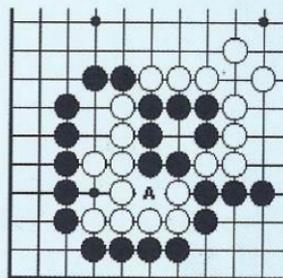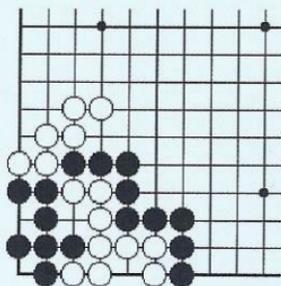

Answer 3

Black 1 atari when white capture the ko, white 2 must capture the black stone. Black recapture ko and capture another two white stones because white is out of the kozai.
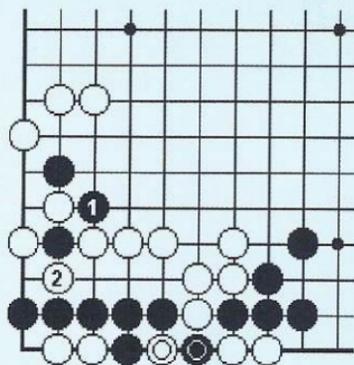
Answer 4

What is Seki? Which diagram is Seki and why?
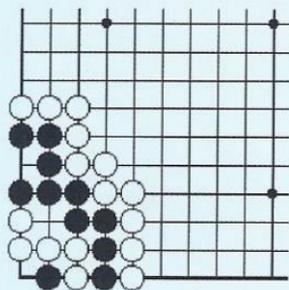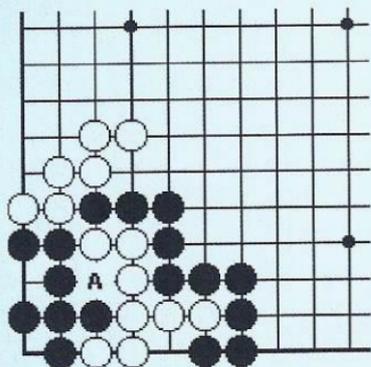
Diagram 1

Seki means mutual life. It is a sort of symbiosis where two live group share liberties which neither of them can fill without dying.

Diagram 1 is not Seki because the surrounded white group only have one eye and one liberty, but black already have two true eyes.

Basic Exercise- 5 Answer2

Diagram 2 is a sample of Seki. Because both black and white have one true eye and one mutual liberty.

Diagram 3 is not a sample of Seki. Because white has four liberties, although there is one mutual liberty. White can capture all the black by placing on A.

Diagram 2

Diagram 2

Appendix I

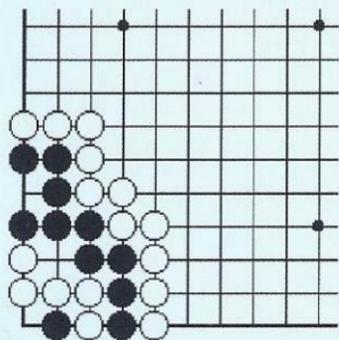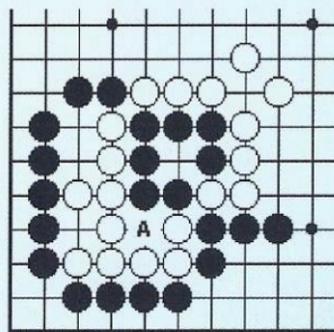| 序号	中文	英文	序号	中文	英文	序号	中文	英文
1	围棋	go；weiqi	11	眼	eye	21	劫	ko
2	棋盘	Go board	12	假眼	false eye	22	劫材	Ko threat/Kozai
3	棋子	Stone	13	目	moku	23	对杀	Semeai/capturing race
4	星	Star	14	空	territory	24	双活	seki（impasse）
5	天元	Center	15	好手	Tesuji/ myoshu	25	断	cut
6	级位	kyu	16	尖	diagonal move	26	切断	cut-in
7	段位	dan	17	死活	Life and Death	27	小飞	small knights move; kogeima
8	围	Surround	18	提子	Capture	28	大飞	large knight"s move
9	气	liberty	19	征子	ladder	29	夹	hasami（pincer）
10	叫吃	atari（cheok）	20	枷	Geta/net	30	断点	Cutting point

序号	中文	英文	序号	中文	英文	序号	中文	英文
31	空提	ponnuki point	41	长	stretch	51	跳	jump
32	提通	ponnuki	42	接	connect	52	压	pressing move
33	交换	exchange	43	一间跳	one space jump ikken-tobi	53	靠	attach
34	先手	sente	44	一间夹	One-space pincer	54	逼	checking extension
35	后手	gote	45	挡	block	55	手筋	tesuji
36	脱先	tenuki	46	见合	miai	56	打入	invasion
37	挂角	kakari	47	让子	Handicap	57	挖	Warikomi；wedge
38	立	sagari	48	腾挪	sabaki	58	贴目	komi
39	定式	joseki	49	打	atari	59	厚	thickness
40	拆	extension	50	本手	Honte；"proper" move	60	筋	suji