

THE WAY TO GO

A simple, straightforward introduction to the principles of play
for this world famous oriental game.

Introduction

Points

Liberties

Connections

Capture

Life and Death

Escape

Two Eyes

Ending

Scoring

The Rule of Ko

"THE WAY TO GO" booklet and other information about the game of Go
is available FREE, from the AMERICAN GO ASSOCIATION.

American Go Association

Box 397 Old Chelsea Sta.

New York City, NY 10113

<http://www.usgo.org>

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Introduction

Go is a game of strategy. Two players compete in acquiring territory by placing markers on a smooth wooden board with a simple grid drawn on it, usually 19 by 19 lines. Each player seeks to enclose territory with his markers (called 'stones'), much like partitioning a field with sections of fencing. Further, each player may capture his opponent's markers. The object of the game is to enclose the most territory, a simple goal that leads to the elegant and fascinating complexities of go.

About The Game

Go originated in China about 4000 years ago. Japan imported go around 800 AD. Players in eastern Asia have excelled at the game throughout modern times. Go reached the western hemisphere in the late 1800's. Completely logical in design, the game of go has withstood the test of time. Today go survives in its original form as the oldest game in the world.

Go is a game of skill involving no elements of chance. Each participant seeks to control and capture more territory than the other. The overall level of decision-making quality invariably determines the outcome of the game. All the play is visible on the board. Play begins on an empty board, except in handicapped games (the less experienced player generally receives an equitable head start). The action of the game is lively and exciting, jumping from battle front to battle front as each contestant seeks an advantage of position.

“Go is a ballet of complementary patterns intertwining across the board.”
- KB

CHAPTER ONE

THE PROCEDURE FOR PLAYING GO

These chapters present example questions designed to lead to an easy understanding of go. Try your best on each question. Review the appropriate explanation if your answer is incorrect. Go is normally played on a 19 by 19 line grid. The diagrams in this tutorial are all on small grid areas so that you can concentrate on typical local area situations one at a time.

Pace yourself. Make sure that this material stays interesting to you.

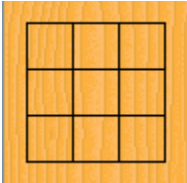
Points

A full size go board grid has 19 lines each way, forming a total of 361 *points* where the grid lines touch one another.

Points win games.

Let's become familiar with counting points on the go board.

Problem: How many points show in the partial board shown below?



Answer

Diagram 1

Sixteen points
(remember to count the corner points)

How many points do you count in Diagram 2 below?

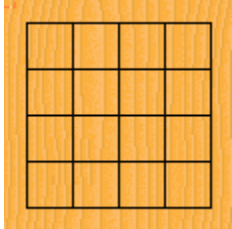


Diagram 2

Answer

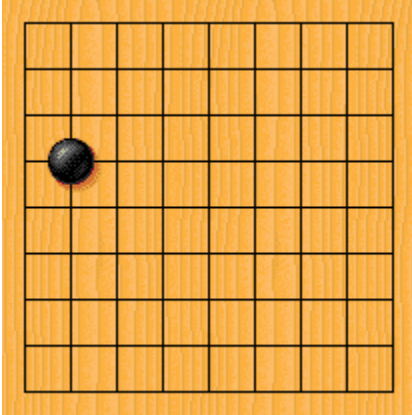
Twenty five points. In the game of go,
ignore the spaces and pay attention to the *points*.

Play begins with the board empty of markers. Each point is a valuable piece of territory. The object of the game is to completely surround more points of territory than your opponent. The markers of play are called *stones*, of which one set is black and one set is white. The player who takes black plays first.

The players alternate placing stones, building up their positions on the board by placing one new stone at each turn. The stones are placed on the points. Once a stone is placed it is *never moved* to a new point.

At the end of the game, dead stones are removed from the board. Sets of empty points, completely surrounded by stones of the same color, are territory for the side surrounding them (even if the surrounding stones are themselves surrounded).

Liberties



Each point on the board has lines extending from it. The very next point along a line is an *adjacent point*. Points are adjacent only along the lines. Any point along a diagonal is *not* adjacent. Each empty point adjacent to a stone is a *liberty*.

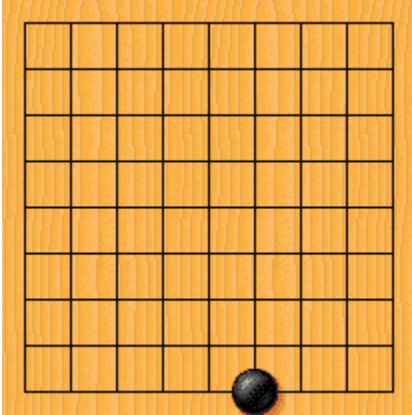
Problem: How many *liberties* do you count for the stone in Dia. 3 below?

Answer

Diagram 3

Four. Review the paragraph if this is not clear.

Counting liberties



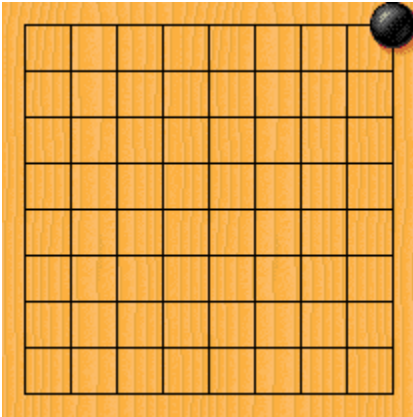
How many liberties are there for the stone in this diagram?

Diagram 4

Answer

Three

Counting liberties



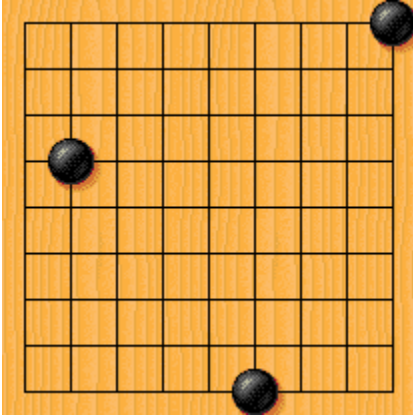
How many liberties are there for the stone in Dia. 5 below?

Diagram 5

Answer

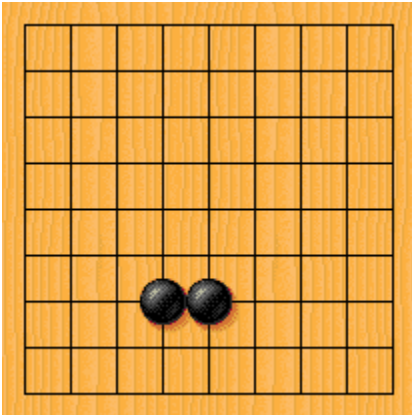
Two.

. Counting liberties



Notice that stones along the board edges, and in the corners have fewer liberties available. Liberties are as important in go as breathing is in life. Ahead we will be concerned with liberties again and again.
Diagram 6

Forming Connections



Once a stone is placed on a point it is never moved to another point. When a stone of the *same color* is placed on an adjacent point the two stones are *connected*. Once connected, stones form an inseparable *unit*. Thus a single stone, or any number of connected stones, make up a unit.

Problem: How

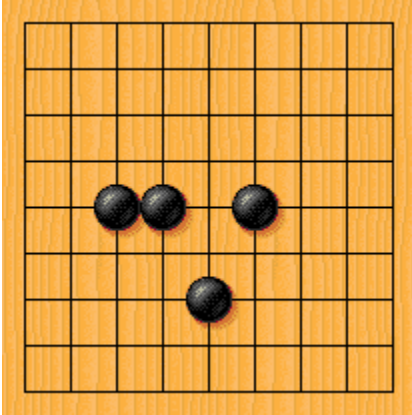
many units do you count in Dia. 7?

Answer

Diagram 7

One unit.

How many units do you count in Dia. 8 below?



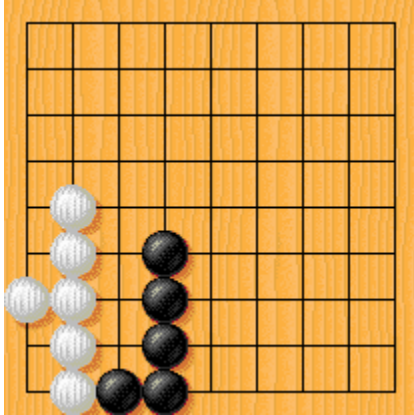
Answer

Diagram 8

Three units.

Notice that stones touch one another when they are connected. To check connections at a glance, look for stones which touch. A gap between stones of one color announces a separate unit.

How many units do you count in Dia. 9 below?

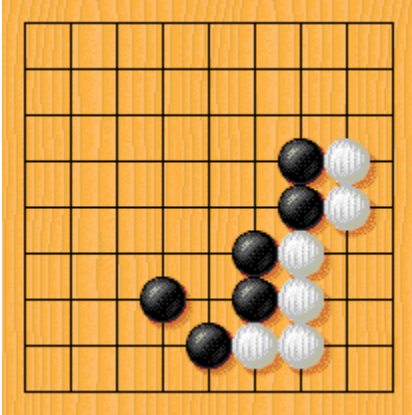


Answer

Diagram 9

Two units,
one white and one black.

How many units in Dia. 10 below?

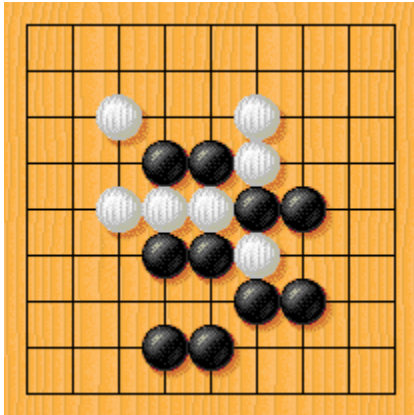


Answer

Diagram 10

Six units,
two white and four black. Remember
that stones connect *only along the lines*;
they do not connect along diagonals.

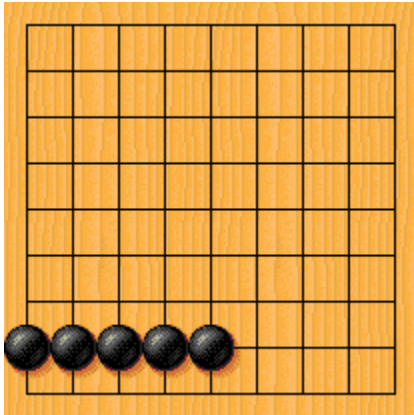
How many units in Dia. 11 below?



Answer

Diagram 11

Nine units,
four white and five black.



Connected units share liberties, so they have as many liberties as there are unoccupied points adjacent to the *entire unit*.
How many liberties do you count for the connected stones in Dia. 12?

Answer

Diagram 12

Eleven liberties.

How many liberties for the unit in Dia. 13 below?

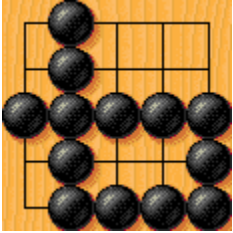


Diagram 13

Answer

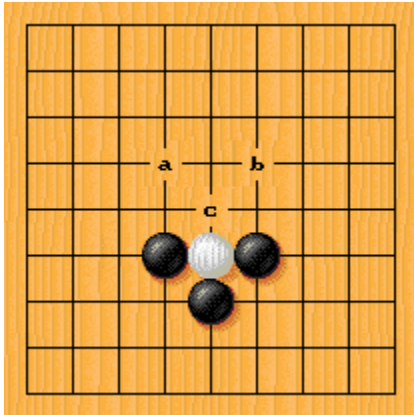
Ten liberties

This one is tricky. Count again if you got it wrong.

Capture

Placing stones so as to occupy ALL the liberties of an opposing unit results in NO liberties for that unit and the stones in that unit are *captured*.

All stones of a captured unit are removed from the board immediately and are retained by the captor as *prisoners*.



Problem: Black to move. On which point in the diagram below must black place a stone in order to capture the white unit and remove it from the board?

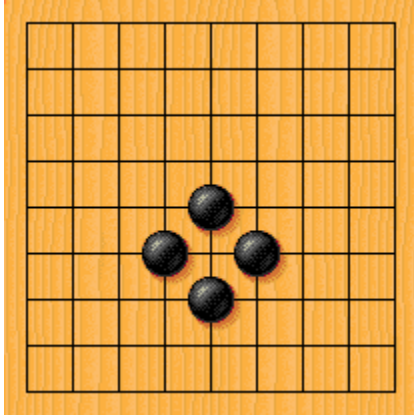
Answer

Diagram 14

'c' is correct.

When a black stone is played on point c it will destroy the white stone's last liberty, and it thus captures that stone.

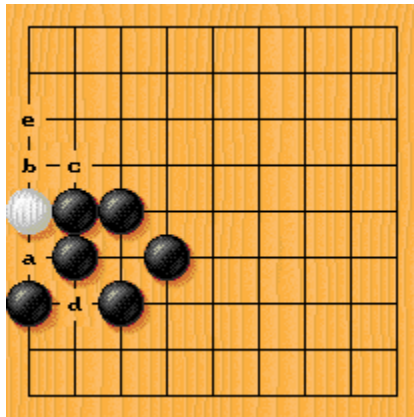
This capture creates a new board situation, shown below.



It may help to think of a liberty as a breathing space. Without a breathing space stones smother and die.
Diagram 15

'c' is correct.

Where must black play in the situation below in order to capture white?



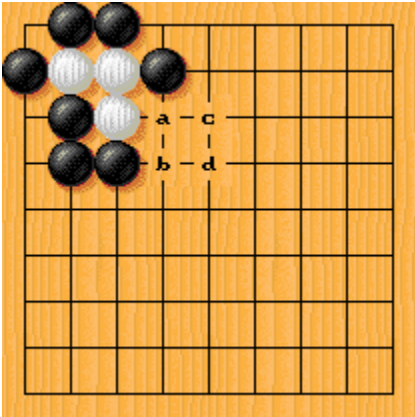
Answer

Diagram 17

'b' and also 'a'.

In this example two liberties must be filled before the white stone can be captured and removed from the board.

Where must black play in the situation below in order to capture white?

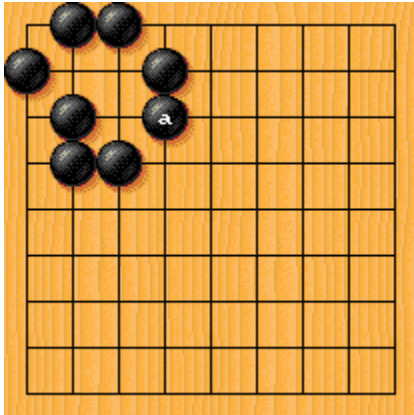


Answer

Diagram 18

'a' is correct.

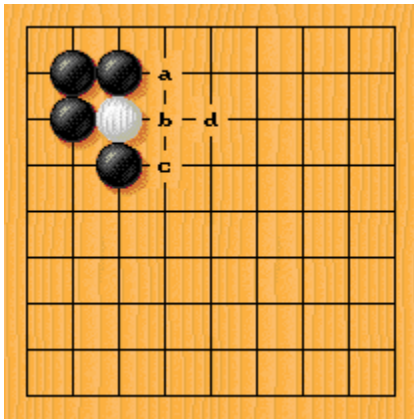
The following diagram shows the situation after black plays at 'a'.



Notice that this capture opens new liberties for the black units. Whenever a unit of connected stones loses its last liberty, the stones of that unit are all captured. Black captures three white prisoners. At game's end these will count as extra points for Black.

Diagram 19

No matter how many stones in a unit, the more liberties it has the stronger and safer it is.



In previous Dia. 19 black gained liberties by capturing white. The other way for a unit to gain liberties is by *extending*.

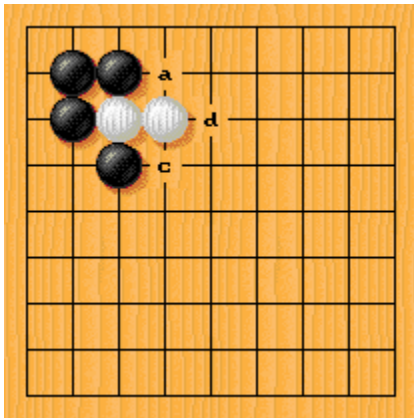
Problem: On which point can white play to increase the liberty count for his nearly enclosed unit?

Answer

Diagram 20

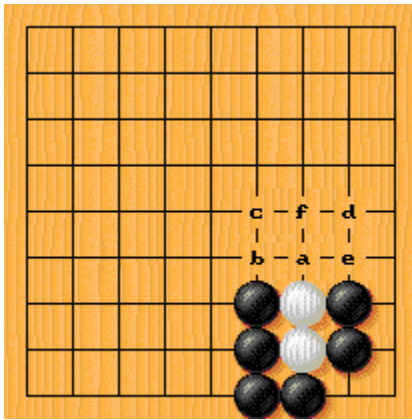
'b' is correct.

White had only one liberty. With this new white stone, the white unit now has three liberties; one at 'a', one at 'c', and one at 'd'.



White's move here is called extending.
Diagram 20

Select the lettered point below where white can play to gain liberties for his two stone unit.

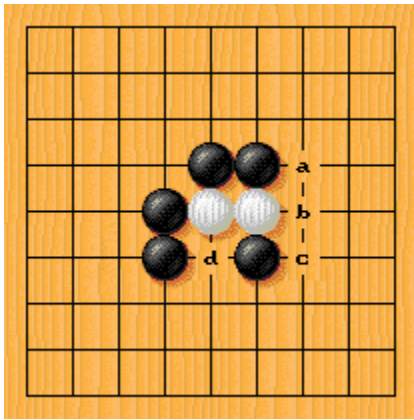


Answer

Diagram 21

White has one liberty at 'a'. Extending with a white stone at 'a' will give this unit three liberties; at points 'b', 'f', and 'e'.

Problem: On which point can white play to increase the number of liberties for his nearly enclosed unit below?

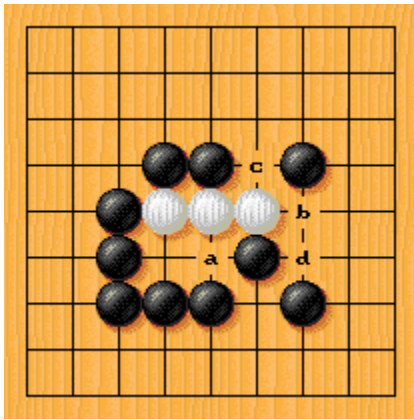


Answer

Diagram 22

Adding a white stone at 'b' will increase the white unit's liberties from two to four. Confirm that a white stone at 'd' will not increase the number of white liberties.

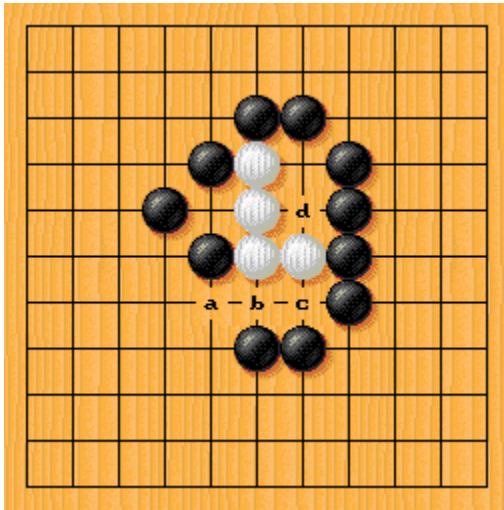
This one is trickier, count carefully. Select the lettered point below which gives white the most liberties.



Answer

Diagram 23

A white stone at 'b' increases the liberty count for white from four to five.

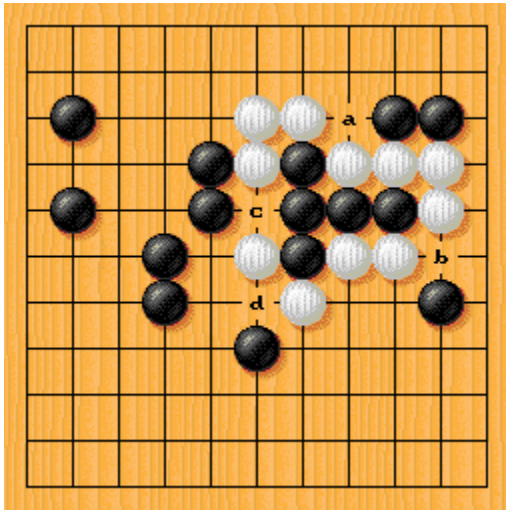


Where can white play in Dia. 24 to increase his liberty count?

Answer

Diagram 24

There is no way that white can increase the number of liberties for this unit.

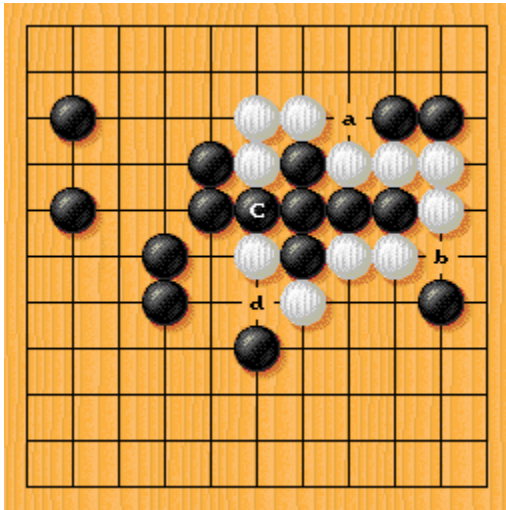


Players often 'extend' in order to avoid capture. The added stone may itself reach to new liberties as in the preceding diagrams. Or, the new stone may enable a confined unit to connect to another outside unit and thus to gain needed liberties.

Problem: On which point should black play to obtain more liberties for his nearly enclosed unit here?

Answer

Diagram 25



Black's endangered unit will be saved, and strengthened from one to four liberties (and gain access to even more), when he joins his units by playing at point 'c'.
Diagram 25

Whenever a unit has only one liberty remaining it is in ATARI (ah tah ree).

Problem: How many atari's can you count in the past twelve situation diagrams?

Go back to Capture. Start with diagram 14. Move forward again to this page. Jot down the diagram numbers for each diagram situation which shows a unit to be in ATARI.

How many atari's do you count?

Answer

Answer: There are **six** examples of 'atari' in this series of diagrams.

(If you counted more than six you may have included the duplicate diagram. Try again.)

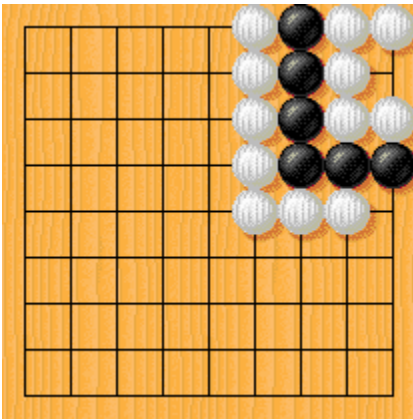
A player who has just had a unit put into atari is not required to try to protect that unit. Neither is the other side ever required to capture. Such stones may remain in atari indefinitely.

As you begin to play go, it is instructive and courteous to warn your opponent as soon as a unit of his is put into atari.

atari is to go as *check* is to chess.

Saying 'atari' means: 'As the board stands, I can capture one or more of your stones on my next play.'

Race to Capture



In each game the players spend much of their time trying to arrange escape for friendly stones and/or preventing escape of enemy stones. Points that lie under captured stones are territory for the captor. Therefore the question of capture vs. escape is vitally important.

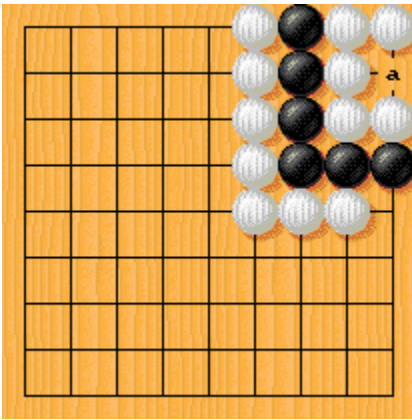
move in the situation below?

Problem: It is black's play. Where will he

Answer

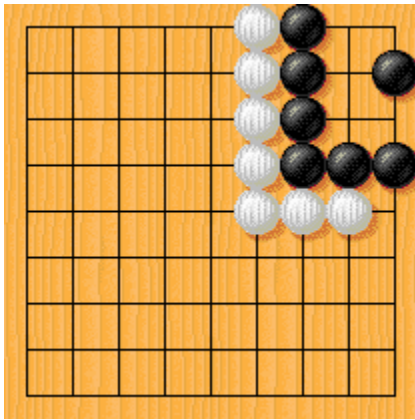
Diagram 26

Answer

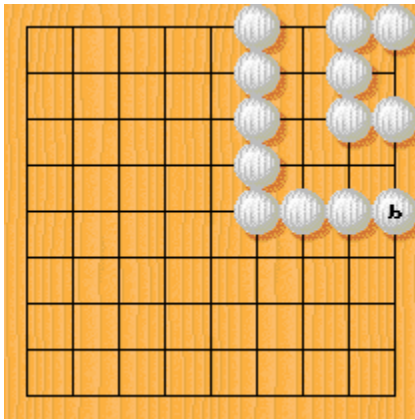


The question of capture vs. escape is vitally important. Black will play at the point marked 'a'. Since this move will destroy the last liberty of the corner white unit, it will capture all the stones in that unit, which then become black's 'prisoners'. Once the white stones have been removed from the board, the black stone played at 'a' will have three liberties and is alive.

Diagram 26



By capturing these white stones the endangered black unit has acquired many new liberties as shown here. Also, black now holds five valuable white 'prisoners'.
Diagram 27



If it is white's move in this situation, he will take black's last liberty by playing at the point marked 'b'. This will capture the black unit and save the cornered white stones.
Diagram 28

‘The power of stones is always measured by the number of liberties they keep.’ -KB

Chapter Two

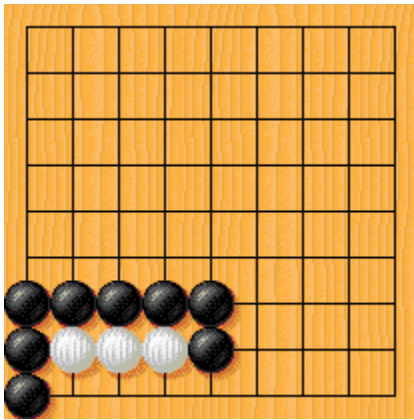
Life & Death

In this Chapter we will now examine ‘safe’ enclosures, and some that are not safe.

In go the players always seek to encircle territory. Often both will be after the same territory at the same time. Sooner or later opposing stones meet and begin to push against each other. Liberties appear and disappear with each play. The conscientious player keeps constant track of the liberties in each unit involved in these territorial battles.

Since stones are captured only when opposing stones occupy all of their liberties, then it follows that: stones *cannot* be captured if enemy stones cannot occupy all of their liberties. Groups of stones can have ‘*safe liberties*’, liberties which cannot be filled by the opponent. Such liberties are always surrounded by friendly stones. Hence they *must* lie inside an ‘enclosure’.

Problem: Can black occupy all the white liberties in Dia. 29 below?

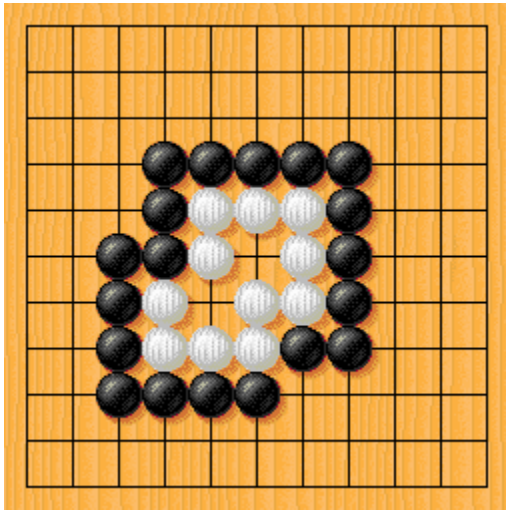


Answer

Diagram 29

YES.

White has failed to surround enough territory.
He does not have room to create safe liberties.
So black can fill all of white's liberties here.



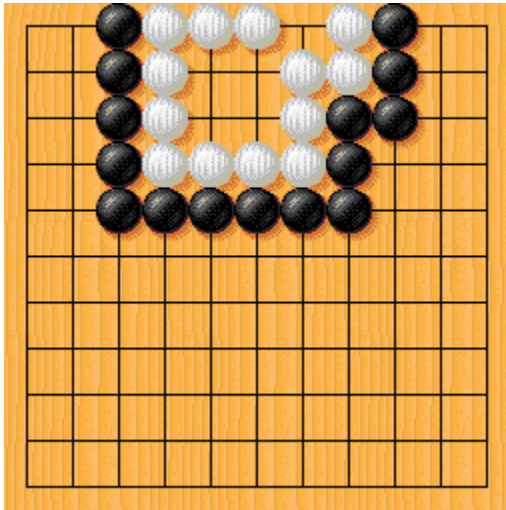
Problem: Can black occupy all of white's liberties in Dia. 30 below?

Diagram 30

Answer

NO.

White has surrounded two completely separated liberties.
If black should attempt to play on either point inside the white enclosure his stone would have NO LIBERTIES, while white would still have one liberty. The white stones cannot be surrounded completely (outside AND inside) because black cannot occupy BOTH of white's inside liberties in a single move.



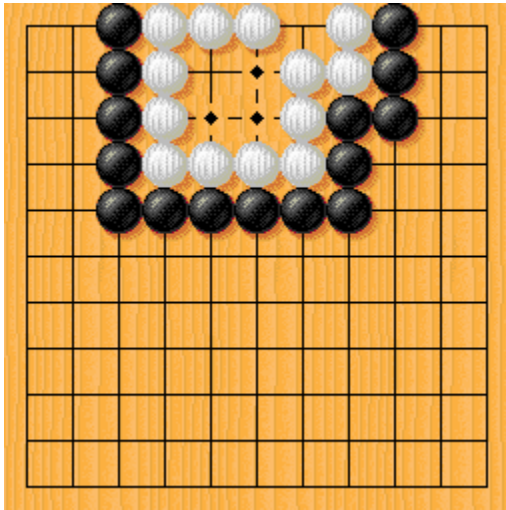
Can black occupy all of white's liberties in Dia. 31 below?

Answer

Diagram 31

NO.

White has succeeded in surrounding territory of a size and shape which assures two eyes. Imagine that black begins to place stones inside this white enclosure. What will happen?

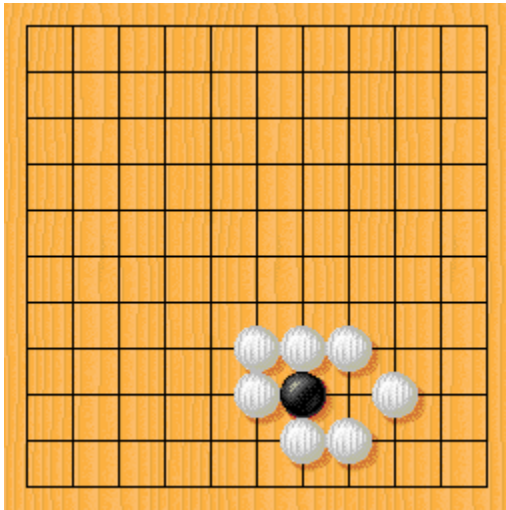


Notice that invading black stones will always run out of liberties before the white stones do. White cannot be captured.
Diagram 31

To Escape or Not to Escape . . ?

Stones that retain one or more liberties but have no hope ultimately of keeping any liberties are said to be *dead as they stand* or simply '*dead*'.

Stones that are 'dead as they stand' remain on the board as long as they retain even one liberty (until the game is finished, when they will be removed as prisoners).



Problem: Does the black stone in Dia. 32 appear to be dead as it stands?

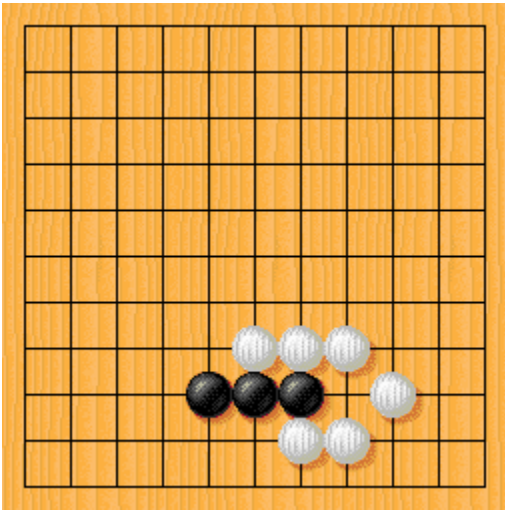
Answer

Diagram 32

YES.

There is no escape for the black stone.

(Yet this stone remains on the board as long as it retains its single liberty.)



Problem: Do the black stones in Dia. 33 below appear to be dead as they stand?

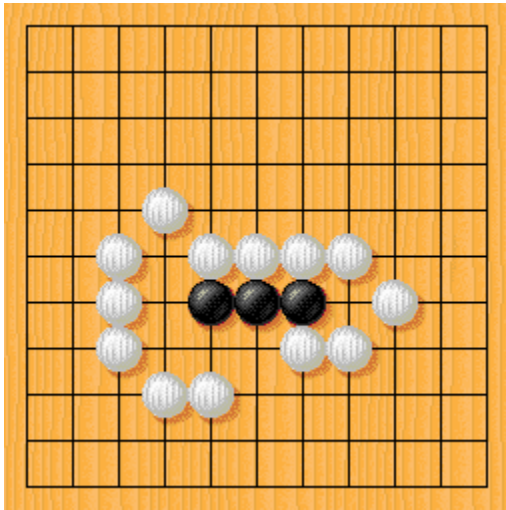
Answer

Diagram 33

NO.

Although these three stones do not now enclose any territory, black can add more stones in the open area to the left where black may be able to enclose territory and thus make these stones safe.

(Of course, with his turns white may attempt to block black's access to new liberties.)



Problem: Do the black stones in Dia. 34 below appear to be dead as they stand?

Answer

Diagram 34

YES.

These black stones are very well enclosed.

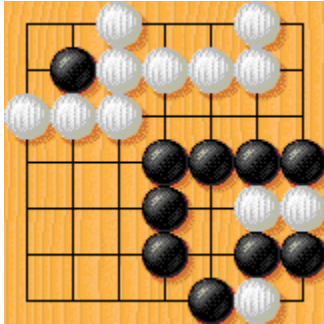
Black cannot surround any points or capture any white stones.

However, white can fill all of black's four liberties whenever he wishes without endangering any white stones.

Thus we see that stones can die from being loosely surrounded even if they are not absolutely smothered. Stones effectively die when all their liberties CAN be taken, whether or not this is done at once.

Problem: Which stones in Dia. 35 below appear dead as they stand?

Hint: Count the liberties of each unit involved in a confrontation. The color with more liberties will overpower the one with fewer.



Now, how many dead white stones do you count? How many black?

Answer

Diagram 35

Three white stones and one black. These stones are trapped. Adding stones of the same color will not help to increase the number of liberties or help them escape.

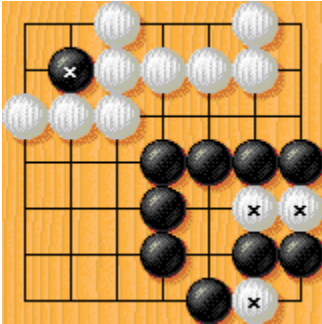


Diagram 35

Problem: How many black stones appear dead as they stand in Dia. 36 below?

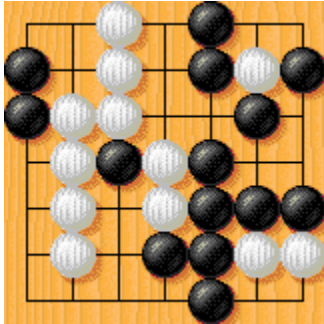
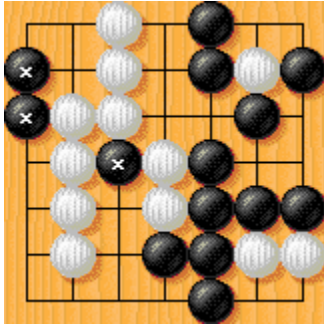


Diagram 36

Answer

Three.



The two black stones in the upper left have no prospect of either escaping or enclosing territory. Also, the black stone in the center of the board has only one liberty, while the two adjoining white stones have two.
Diagram 36

Now ask yourself how many white stones are dead as they stand here?

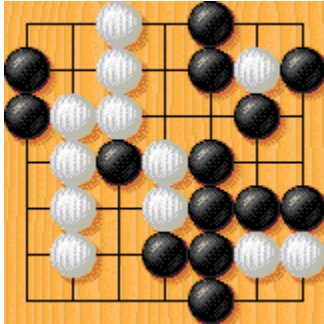
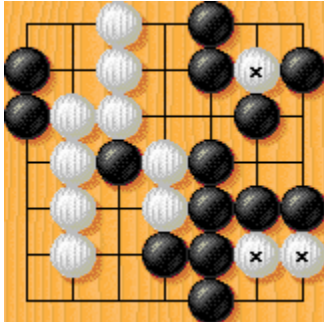


Diagram 36

Answer

Three.



The two white stones in the lower right have no prospect of either escaping or enclosing territory. Also the white stone in the upper right corner has only one liberty. (The two white stones in the center have one more liberty than the single black stone and cannot be captured.)

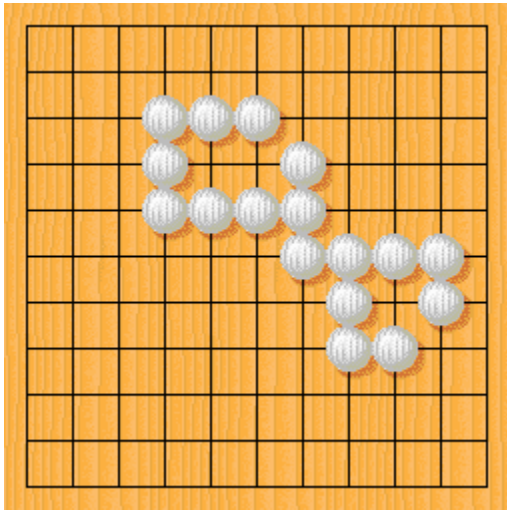
Diagram 37

‘Two eyes live, one eye dies.’
- RW

Two Eyes

An empty point fully enclosed by one color is called an *eye*.
A group of points fully enclosed by one color is also an *eye*.
Stones live by shaping an enclosure of *two eyes*.

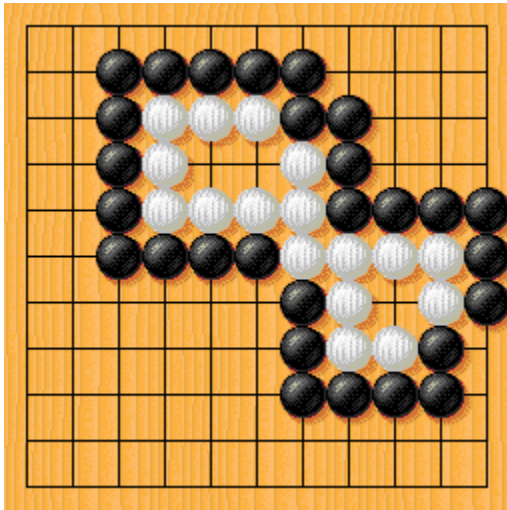
Stones that can form only one eye, or none at all, will eventually come into atari and die.
A stone formation which has two separate eyes will always have at least two liberties.
Thus it can not be captured. The opponent can not fill both eyes at once.



Problem: Is white alive here?

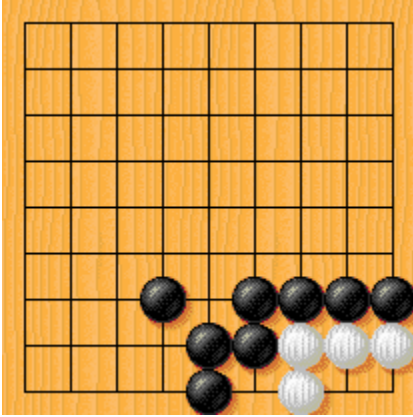
Answer

Diagram 38



Alive. White has two eyes, one enclosed area of two points, and one enclosed point in the lower right. Even if all of white's outside liberties are filled in by black, the white formation has two separated empty point enclosures. Separated inside liberties guarantee that white cannot come into atari.
Diagram 38

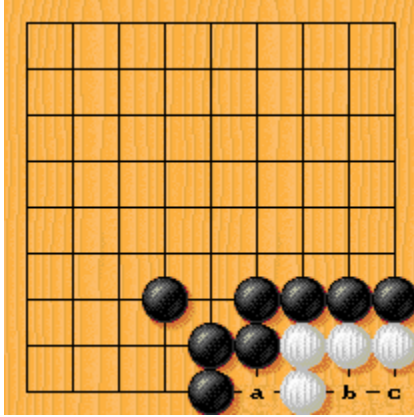
Is white alive in this situation?



Answer

Diagram 39

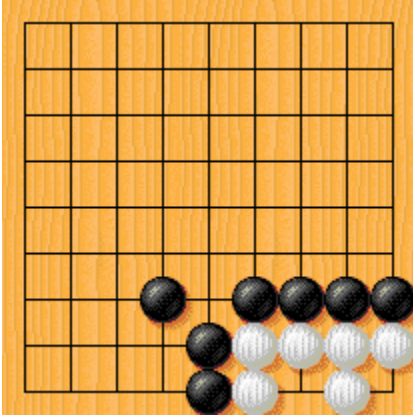
No.



The white stones are dead as they stand. White has only one eye and no escape route. If it should be necessary black can fill points 'a', 'b', and 'c' to capture the white stones.

Diagram 39

Is white alive in this situation?



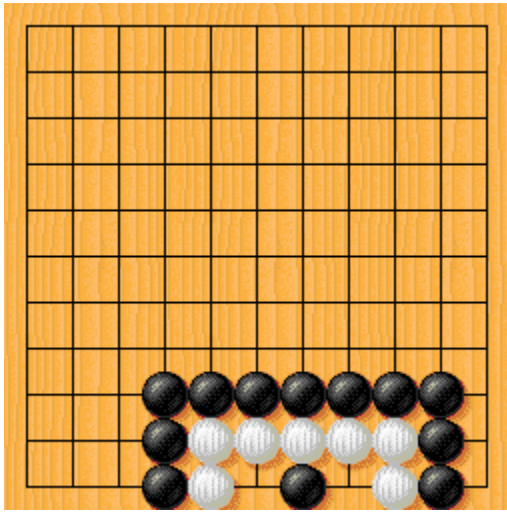
Answer

Diagram 40

Yes

White has secured two eyes.

Black cannot occupy either of white's enclosed 'safe liberties' without placing a stone on the board which would itself have no liberties.



Is white alive in this diagram?
Diagram 41

Answer

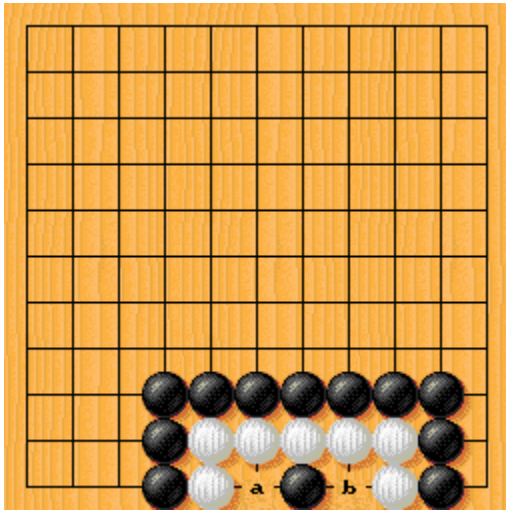
No.

The surrounded white stones are dead.

Black has wisely placed inside white's single eye
a stone that occupies the only point by which white
could have separated his enclosed area into two eyes.

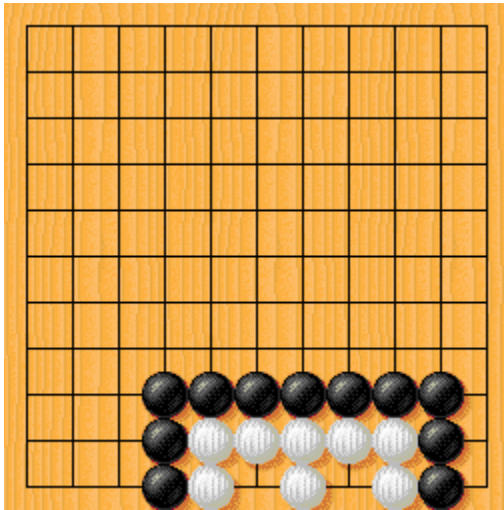
Confirm that black can capture and remove the white stones below.

(Three black moves may be required.)



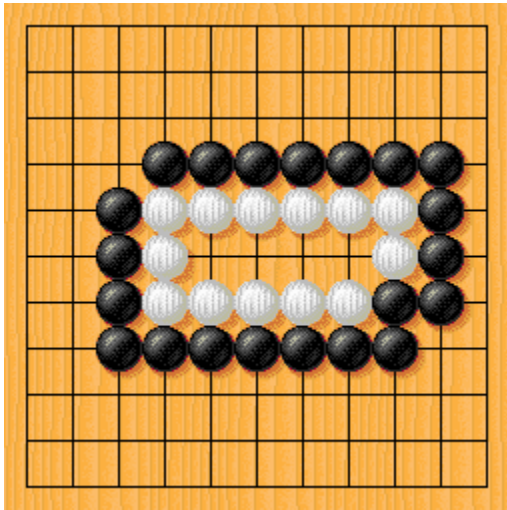
If it should become necessary black can finish off white's stones by first playing at either 'a' or 'b'. Either move will put white into atari. White can then increase his liberties only by capturing the two enclosed black stones. Black again plays into white's (now smaller) eye space. This time white can not escape atari by capturing black.

Diagram 41



If white anticipates black's killing move above and plays there himself first, he will have made himself two eyes and will be 'safe and secure'.

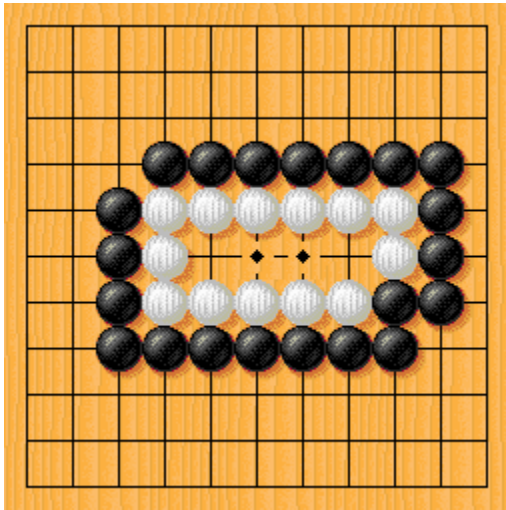
Diagram 42



Is white alive in Dia. 43?

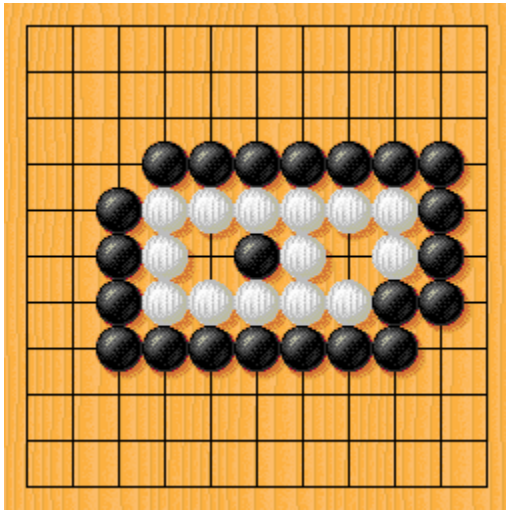
Answer

Diagram 43



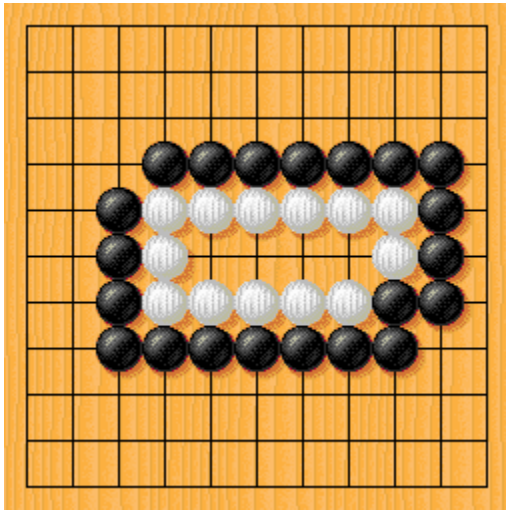
YES. If black were to take one of the two marked points below and white took the other, then black could not place another stone inside the white enclosure. WHY? Ask yourself why black cannot continue his attack.

Diagram 43

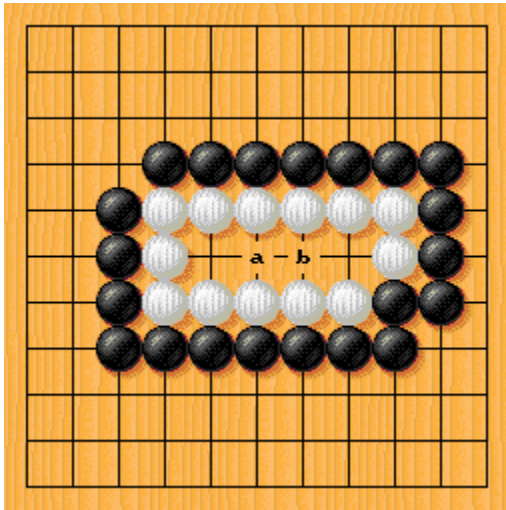


Black cannot now play on either of white's remaining liberties. A stone cannot be played on a point which would leave that stone with no liberties, (unless that move would create its own new liberties by killing and removing adjacent opposing stones).

Diagram 44

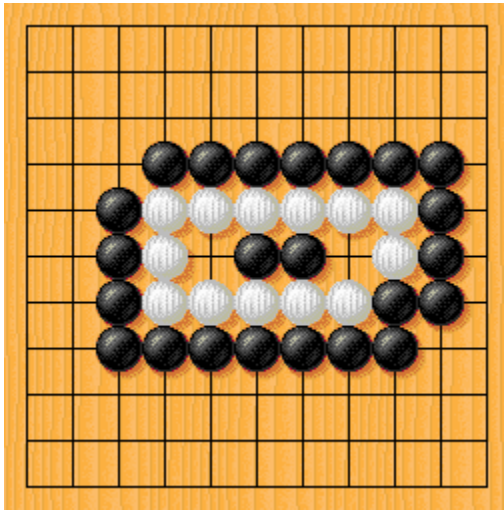


When an enclosed area is large enough so that it can be separated into two distinct eye spaces whenever it should become necessary, it is safe and secure as it stands.
Diagram 45



If, in this situation white were to allow black to occupy both points 'a' and 'b', then the remaining eye space would no longer be large enough for white to make two eyes. The white unit would be dead as it stands.

Diagram 46



As you play go, the concept of two eyes will become more clear. In attempting to approach the two black stones now, notice that white would have to place his own stones into atari. Black can bring the white stones into atari any time by adding another black stone, allowing white to capture three stones, and then occupying white's vital point as in [diagram 41](#).
Diagram 47

Ending / Scoring

There are four goals in Go: (1) Surround territory, (2) Reduce your opponent's territory, (3) Capture enemy stones, (4) Protect your own stones. The winner, on balance, is always the player who has accomplished these goals more efficiently.

Tying Up the Loose Ends

The game is ended by a pass of turn by each player in sequence. Saying 'I pass' means that you see no way to further any of the above goals. Passing presumes that all claimed territories are completely surrounded (all fence sections are in place), and no stones are in atari along the borders between opposing live groups.

Problem: Is black ready to pass in Dia. 48 below? (Are there black defects where white could reduce black's count?) (Opportunities where black could reduce white's count?)

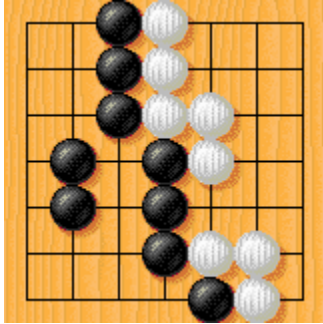


Diagram 48

Answer

No. Black should not pass.

White's wall is incomplete. Black can push into white's territory through the gap at point 'a'. Also, the single black stone at the lower edge is in atari. Black can save it by connecting it to the neighboring black stones at 'b'. (Black should consider which of these moves will benefit him most.)

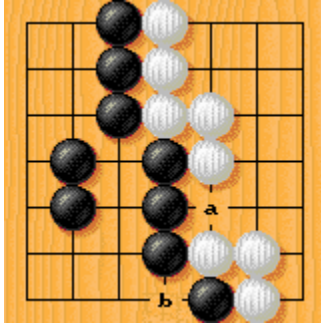


Diagram 48

Is black ready to pass in Dia. 49 below? If you aren't sure, ask yourself exactly where and why you are uneasy.

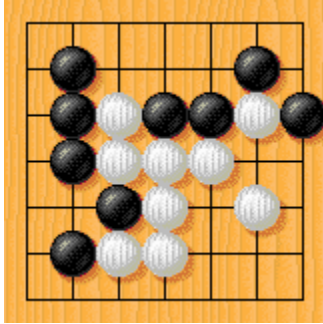


Diagram 49

Answer

No.

Two stones are in atari, one white and one black. Also, the walls being formed between opposing colors are incomplete. Critical points are marked below. Who moves first at each of these points will make a significant difference in the score. Can you see why?

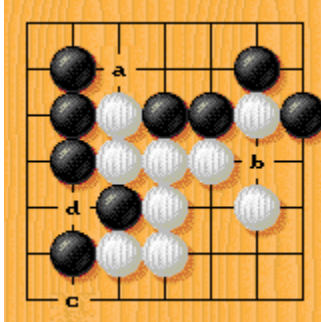


Diagram 49

A white stone at 'a' will separate black into two groups. Then each part will need to make two eyes in order to live. Then, when black makes a move to secure one side, white will attack the other side.

A black stone at point 'a' assures that both parts remain connected.

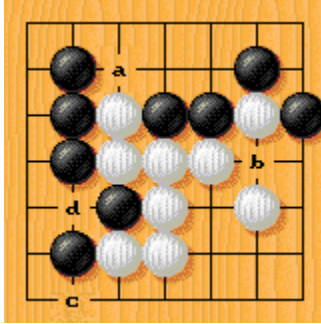


Diagram 49

Is black ready to pass in Dia. 50 below?

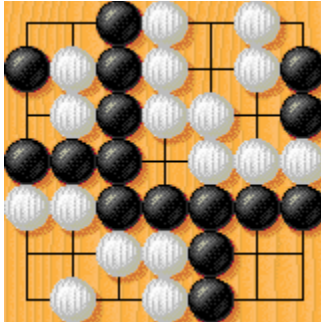
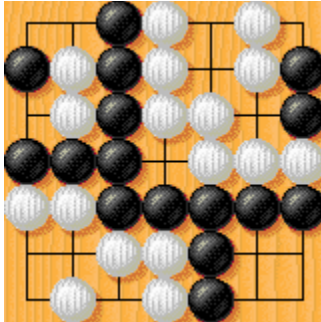


Diagram 50

Answer

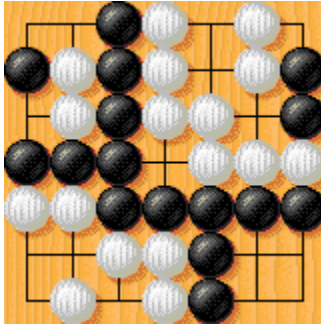
Yes. Black may safely pass his turn.



This example may look confusing at first since it brings together all the concepts discussed so far. We will look at it one step at a time. Look at the two white stones in the upper left corner. They have two liberties, no eyes, and no hope of capturing black stones. They are dead. Next look at the two black stones in the upper right. They too are dead. Black's living stones are connected through the middle of the board. They have one eye in the lower right and another in the upper left, where the two dead white stones lie. This black unit is alive.

Diagram 50

Notice that white has two enclosures, one in the upper right and one in the lower left. White's enclosures are not connected to each other. Look to see that white has two eyes in each of these enclosures. In the upper right there is one eye in the area where the two dead black stones lie and one eye just to the left of that. In the lower left corner, the single white stone divides that enclosure into two eyes.

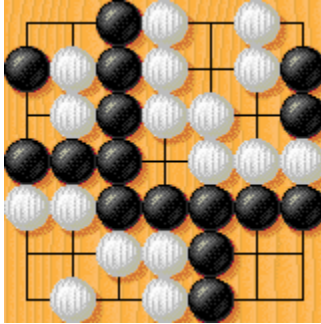


Notice that no stones are in atari along the territorial borders. All the walls are complete, blocking out opposing stones. We have just said that black is ready to *pass* at this juncture in the game. What about white?

Diagram 50

White may safely pass her turn.

The game in Dia. 50 is finished. If either side decides to fortify its defenses further it will merely occupy its already enclosed points with its own stones, thereby reducing its surrounded countable territory. As a game progresses, outside liberties become less and less important and enclosed points become all-important.



Often at the end some vacant points remain between opposing walls which neither side can enclose. These are called dame (dah meh). Dame are neutral points, owned by neither side. At game's end the players will fill these dame, continuing in turn until all points on the board are completely enclosed by one side or the other.

Problem: How many dame are there here?

Diagram 50

One dame, marked at point 'a'.

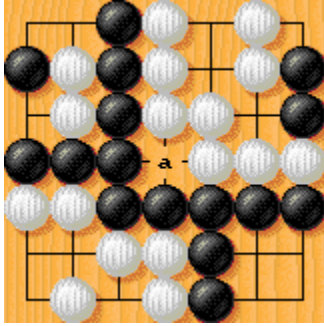


Diagram 50

Problem: How many dame are there in this otherwise completed game, below?

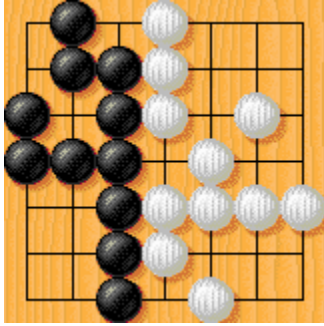


Diagram 51

Three dame, marked 'a', 'b', and 'c'.

(Confirm that stones played on dame points, by either side, do not alter the game point count for either.)

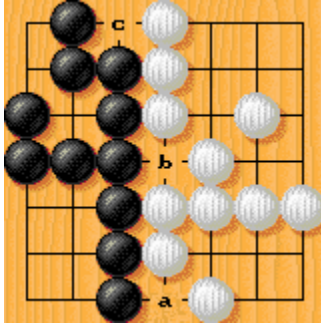


Diagram 51

Reaching Agreement

After one opponent passes, the other may still play, in which case the turns continue until both pass in sequence. Then the players must agree with each other about the status of each unit on the board (whether it is alive or dead as it stands).

If they cannot agree the play resumes until the situation becomes completely clear to both. In every case continued play will resolve any questions by steadily reducing the number of liberties. Eventually each unit will either lose all its liberties or it will enclose only safe points.

Another way to end a game is by resignation. A player may resign when he sees no prospect of winning, and he should do so voluntarily, out of consideration for his opponent.

Scoring

First verify that all dame have been filled, (with extra stones, *not* prisoners). Remove from the board, as prisoners, all stones which are dead as they stand. Count each vacant point for the side that has surrounded it. Subtract from black's point count the black prisoners held by white. Do the same for white.

Whichever side has more net points, wins the game.

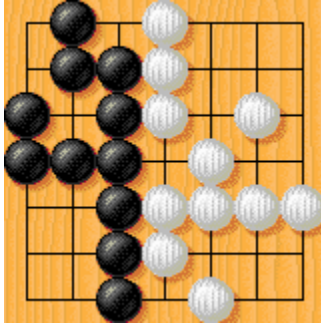
Final Score:

Black $9-1 = 8$ points

White $15-3 = 12$ points

White wins by 4 points

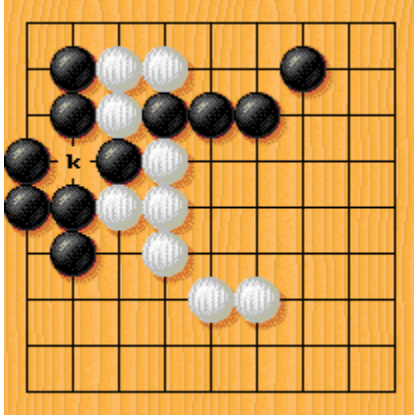
Prisoner count: White holds 1 black stone. Black holds 3 white stones.



Black has 6 points in the lower left, 2 in the upper left corner, and a single point with stones on all 4 sides, for a total of 9 surrounded points. White has 5 points in the lower right, and 10 points in the upper right. There are 3 neutral points (dame), which are touching both white and black stones.

Diagram 52

The Rule of Ko



The word *ko* means *eternity*. In go, *ko* refers to a common situation that would cause 'stalemate', an endless series of meaningless plays if there were no rule to cover this occurrence.

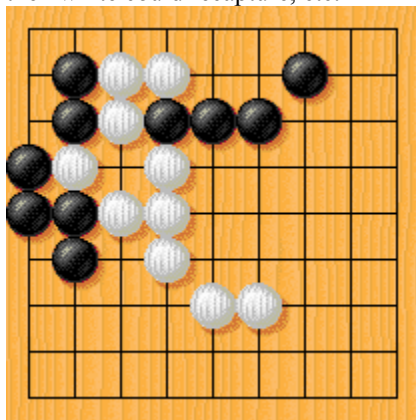
As things stand here white's three stones at the top are cut off from the others. They appear to be dead as they stand, but - - -

It is white's turn and the black stone which is separating the upper white unit from the lower white stones, is in atari.

This ko situation is of great importance to both sides.

Diagram 53

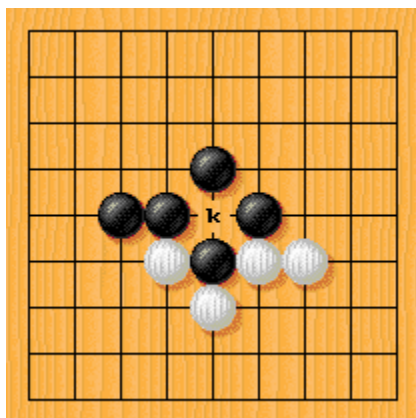
In Dia. 54 below white has captured the troublesome black stone and appears to have connected his stones. But now white's stone is in atari, and it is black's turn. It would appear that black could immediately recapture white, then white could recapture, etc.



In order to prevent this meaningless sequence, there is a Rule of Ko which states: 'A player may recapture in ko only after making at least one play elsewhere.' After he has played somewhere else on the board black may then go back to the ko point again. This rule prevents a stalemate game.

Diagram 54

Review: In Dia. 55 below, assume that black has just captured a white stone from point 'k'. Can white recapture with his next move?



Answer

Diagram 55

Obviously no.
Only after moving elsewhere first.

What would happen without the Rule of Ko?

Without the Rule of Ko
the game could not proceed.

If both players insisted on capturing and
then recapturing, and neither would play
elsewhere, the game would end in stalemate.

The concept of ko will become clear as you play. Now you
are ready to apply your knowledge of go in a real game.

Go for it!

