KAKURO
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Together let's try the new puzzle that's conquering the world!

2-4 players – 30 minutes approximately

Like Sudoku its predecessor, the Kakuro puzzle has conquered the pages of many newspapers and specialised publications. It is like a crossword grid, in which a series of totals to be reached are given: the solvers must discover what the individual digits to be added together are (the addends).
This game reproduces its spirit, but allows for competition between 2, 3 or 4 players.

Contents

- 1 playing board which reproduces a 9x9 grid surrounded by the scorecard **(diagram 1)**;
- 72 cards numbered from 1 to 9, with the same number printed on both sides:
  - on the yellow background the digits represent the addends, which will then be summed up to obtain the totals;
  - on the red background the digits represent the totals and are valid as any two digit number which contains that digit as a unit; for example a red 4 is valid as 4, 14, 24…
- 9 "100 point" cards.
- 4 scorekeeper markers;
- 4 screens in the colours of the markers;
- 1 bag;
- The rules of the game.

Preparation

- Open the playing board in the centre of the table;
- Each player chooses a screen and the marker of the corresponding colour;
- Place the markers on 0 on the scorecard;
- Place the 100 points score cards aside, put the other 72 cards into the bag and shuffle them up;
- Take out 5 cards and position them on the boxes with the illustrations of river stones; the 4 side ones should be positioned on the yellow part (addends), the central one on the red part (total). Each player then picks 2 cards from the bag which he will keep behind his screen, hidden from the other players.

The game

Players take turns in a clockwise direction, beginning from the youngest player.
The player whose turn it is
a) **must** place one of his two cards on the playing board;
b) **may** turn one of the cards already on the playing board over, if the conditions allow for such (see "turning over a card");
c) pick another card from the bag.

a) Placing a card

The player whose turn it is <u>must</u> place one of his two cards in any free box (horizontal or vertical) adjacent to any one of the other cards already on the board. He can freely choose what side to position the card on.
By positioning his card cleverly, a player can get "Kakuro" and earn some points.

"Kakuro" is when a series of adjacent cards consisting of a total, followed horizontally (from left to right) or vertically (from the top down) by **two** <u>or more</u> addends all of which are different from each other, which make that total when summed up; a series of addends must be interrupted by an empty box, by another total or by the border of the playing surface.
You can obtain a Kakuro in many different ways, by inserting a total and an addend that is worth as many points as the sum of the addends.

For example, if I have a total **8**, followed by a 3 as an addend (**8** 3), all I need do is add a 5 immediately after the 3 to make the sum exact (**8** 35, which is equal to 8=3+5) and earn 8 points; the same could be done if we had the **8** and the 5 in the grid and then inserting the 3; the same could also have been done if we had a 3 and a 5 in the grid by inserting an **8** before them.

In **Diagram 2** some of the possible cases in which you can obtain a Kakuro are illustrated .

- *By inserting the yellow 4 in c6 you will earn 13 points; in fact an exact addition has been created because 13=9+4 and there is a red 3 in front of them, that is, a total that ends in 3 (as we mentioned, the totals are valid as any two digit number that has that digit as one of its units).*
- *By inserting a red 4 in e6 you will earn 14 points, because you create the addition 14=1+5+8.*
- *You will not earn any points by inserting a yellow 8 in d2; it is true that 19=8+3+8, but two of the addends are the same and therefore it is not a Kakuro. Warning, this move is not illegal (the cards can be positioned on any box adjacent to another card regardless of whether or not this creates a Kakuro), but it simply won't win you any points.*
- *By inserting a yellow 6 in f4 you do not win any points; in fact, horizontally the sum 6+2 equals 8 and not a total*

that ends in 5 and vertically it only forms a series of 3 addends without a total.
- *Lastly, by inserting the red 8 in f7 you do not earn any points, in fact the total, 4, is not followed by any addends, either horizontally or vertically. Warning, this is a general concept: in a Kakuro the total must always precede the addends, never follow them! This means that 8 71 is a Kakuro, but 71 8 is not.*

Sometimes it is possible for an inserted card to create several *Kakuros* at the same time and in such cases you can earn points for both totals: there are a few examples in **diagram 3**.

- *By inserting the red 8 in e2 you can earn 26 points! In fact by doing so you create two Kakuros, one horizontal one 8 639 (that is 18=6+3+9) and one vertical one 8 62 (that is 8=6+2). In all 18+8=26 points.*
- *By inserting a red 4 in e6 you will earn 14 points, because you only create a horizontal Kakuro. Vertically the series 4 4, although the number corresponds, is not a Kakuro because it is made up of a single addend.*
- *It is possible to take advantage of the potential of the crossovers by playing with yellow cards. By inserting a yellow 7 in g4 you will earn 34 points!!! Two Kakuros are in fact created, one vertical one 9 397 (19=3+9+7) and one horizontal one 5 267 (15=2+6+7). In total 19+15=34 points!*

<u>Warning</u>. Remember that it is always possible to play any card in any position (because adjacent to at least one other card), it doesn't matter if you "destroy" a Kakuro made beforehand. You can only earn points by making up new Kakuros.

<u>Note:</u> The cards do not include 0 (zero), therefore it is not possible to make Kakuros with totals that end in 0.

b) Turn over the cards

As well as positioning a card, the player whose turn it is also has the right to turn over another one, making a yellow card red or vice-versa, **as long as the card inserted and the one turned over form part of the same** *Kakuro* **at the end of the move.**

In **diagram 4** there is a simple example: the player inserts

a yellow 2 and turns the other yellow 2 on the left into a red 2, thus making the Kakuro **2** 642 which includes both cards and is equal to a total of 12 points.

Here is a more complex example **(diagram 5)**. This time it is a red card that is changed to yellow so as to lengthen a series. The player inserts a yellow 7 and overturns the red 2 creating a long series of addends all of which are different from each other, beginning from the red 3 to the left as far as the yellow 7 just inserted. A brilliant Kakuro is the result of this **3** 9325167 and the clever player earns 33 points!

In the three illustrations in **diagram 6** we see an example of an illegal overturn. In the first illustration we see the initial situation; in the second, the player whose turn it is has inserted a 5 between the red 2 and the yellow 1; in the third situation the player continues his move by overturning the yellow 5 to the right and thus "creating" the Kakuro **2** 516. But this kind of operation is not allowed! The red 5 is not part of the Kakuro that it contributed to creating and therefore could not have been overturned. The player does not gain any points and must overturn the 5 again onto its original yellow side. The yellow 5 that has been inserted remains in its position and the next player then takes his turn.

In **diagram 7** we have a partially similar situation, but in this case the overturning of the yellow 4 is perfectly legal, because thanks to the yellow 7 inserted, the Kakuro indicated is obtained.
4 527=14 points.
In this case however the Kakuro **1** 821 (horizontal before the **4**) is not valid because to create it, it was necessary to overturn the 4 which is not part of it. On the other hand, the Kakuro **4** 31 (vertical under the **4**) is perfectly valid and will gain the player a further 4 points.

In the two illustrations in **diagram 8** there is an example of a rare move that will allow players to get 3 valid Kakuros. In this case in fact, apart from the two Kakuros that are part of the previous example, the insertion of the yellow 7 also produces another vertical Kakuro **9** 27.
In total the player has therefore obtained 14+4+9=27 points.

So be careful:

When it's their turn, players **can overturn a card** only if the card overturned and that inserted are both part of the same Kakuro.
If, apart from the Kakuro that they created together, the two cards individually create and form part of other Kakuros, these are also **valid for points purposes.**
For a Kakuro to be valid for points purposes **all of the cards that have contributed to creating it** must necessarily be part of it.

c) Fish out a card

At the end of his move the player can simply fish out a card from the bag, so as to ensure he always has two cards at a time.

Incorrect moves. On occasion a player might think he has made a Kakuro but he might be wrong. For example, he may have miscalculated a total or he may not have realised that there were two identical addends in an addition. In all of these cases, if the other player realises this mistake before making the next move, the player will not obtain any points, the card placed on the board will remain there and any card that may have been turned over will be turned over again.

The game and its conclusion

Move after move the players will take note of the points that they have obtained by moving their point marker along the various boxes. When a player surpasses 99, he can take one of the "100 points" cards and the marker will continue.
When there are no longer any cards in the bag, the players will finish the game with those that they have in their hands. When each player has finished his cards the game is over and whoever has gained the most points wins the game.

Version for experts

When making his move the player may overturn more than one card, as long as the card inserted and all those that are covered up are part of the same Kakuro at the end of the move.