

Game Instructions

Welcome! You participate in a game with uncertainty.

You participate in a game where you interact with humans and computers. Your payoff is mainly determined by how many (name, number) pairs you receive. This happens as follows:

At the beginning of the game you get two Lists: List A and List B. There are 200 Names (longer combinations of letters) on List A. For each name there exists exact one number that one of the other players or a computer knows. We chose the participant who knows the missing number randomly before the start of the game. On List B are 200 (name, number) pairs. These are the (name, number) pairs that you know, that have been randomly assigned to you and after which you could be asked. Further, you know some of the other players. At the beginning you know four¹ other participants. Each of them is described by a identification number (ID). Every other player has two lists like you. List B is stored in your computer. In order to prevent that you always have to search the list for numbers, your computer checks for it every time someone asks you after a combination and informs you about the outcome.

You can get the numbers that belong to the names on you List A if you issue a query. You forward your query to one of the players (computers or humans²) that you know and that are represented by an ID (like you are). Every time you issue a query, your computer takes a name from your list. Every time you issue a query the system proposes a set of players (that you know). The order of these players is related to the probability that the player has your missing number. The first is the one that has the number with the highest probability among all players you know. The second has the second highest probability among all players you know, and so on. Still, it is not for sure that one of the players you know actually has the number. If the player you forwarded your query to does not have the number, this player can forward your query to some other player. The system will also propose him an ordered list of players. A player is not forced to answer or forward a query. Every player decides this on its own. If a player answers a query, he directly sends the result to the issuer. In the case that one of your queries will be answered, your computer automatically stores the player you initially forwarded your query to. Every other participant can ask after (name, number) pairs exactly like you. This player has the same options than you and has an equal amount of information. In other words, you can answer, not answer or forward³ incoming queries. For each incoming query the system informs you whether you can answer it or not based on your list with 200 (name, number) pairs.

Next to the players you know from the start you get to know some more players during the game. You can add these as 'additional contacts' to your list of known participants. Later you can forward queries directly to these additional contacts. Further, you can delete additional contacts from your list of known participants. To these you cannot directly forward queries any more. Hint: You cannot deleted these participants from your list of known participants that you know from the start of the game.

For every (name, number) pair on List A you gain 20 points. Answering a query costs 5 points. Issuing and forwarding your own query costs 2 points. Forwarding costs 1⁴ point. Every additional contact costs 1 point per round. Doing nothing, i.e. ignoring queries, is costless. Your account will be changed after every action. At the beginning of the game your account is 100 points. 1 point are 2 euro-cent.

The other participants can make their decisions like you do. Computers act after a certain program, that is not known by you.

¹ Comment: This is a mistake. Each participant knew three other participants in the initial structure.

² Comment: In our experiments all players where humans.

³ Comment: The players can also 'not forward' incoming queries.

⁴ Comment: '0', '3' or '5' points in the other treatments.

The game is played with following frame. There information, and action choices are arranged as follows:

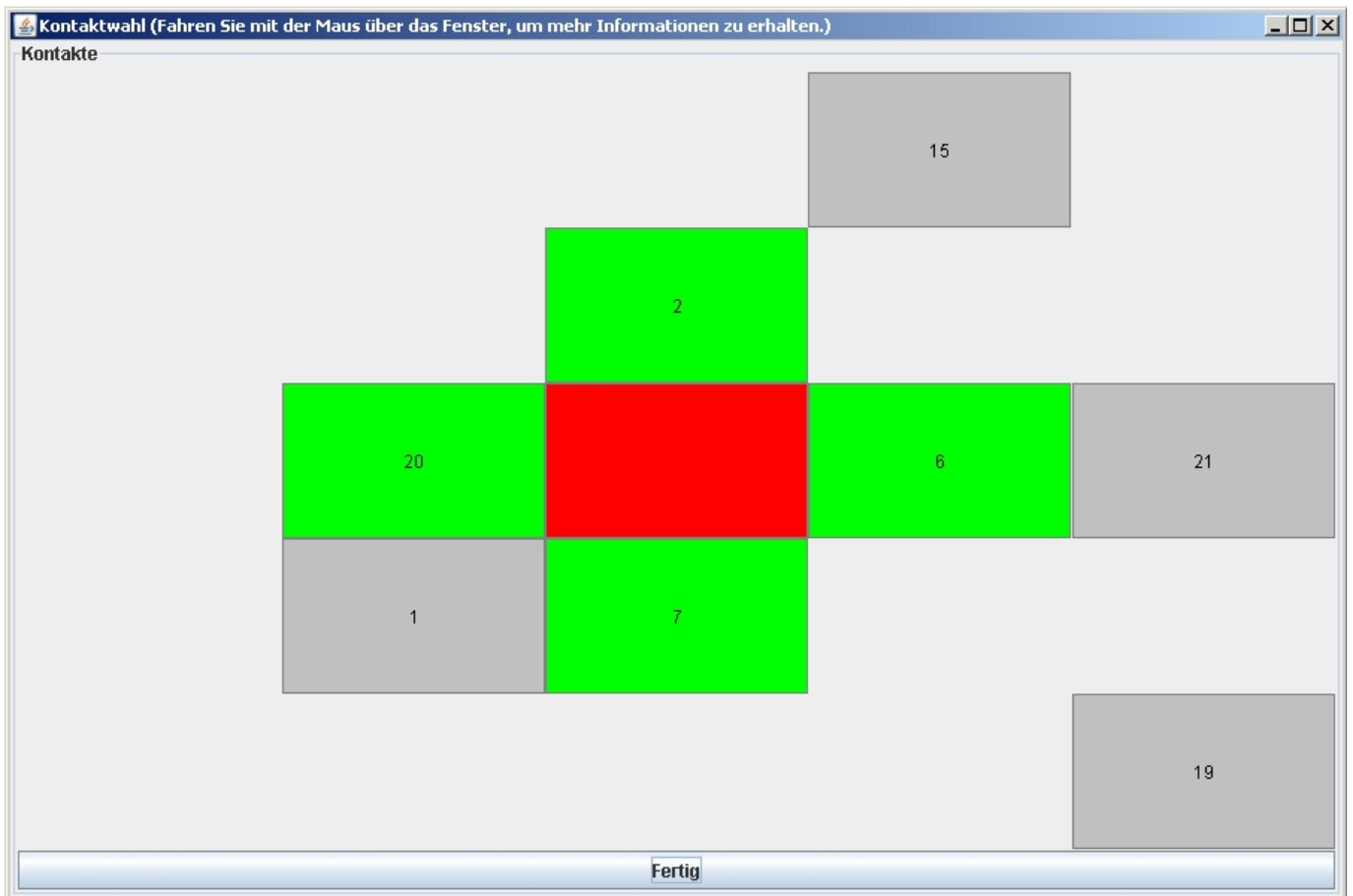
| Ihr Name: | | Finanzstatus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 2 | | Kontostand: | 143,9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Ausgaben: | 16,1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Einnahmen: | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fremde Anfragen. (Beliebig viele pro Runde möglich.) | | Kontakte | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Von</th> <th>Beschreibung</th> </tr> </thead> <tbody> <tr><td>11</td><td>Weiterleiten</td></tr> <tr><td>23</td><td>Weiterleiten</td></tr> <tr><td>20</td><td>Weiterleiten</td></tr> <tr><td>9</td><td>Weiterleiten</td></tr> <tr><td>21</td><td>Weiterleiten</td></tr> <tr><td>18</td><td>Beantworten</td></tr> <tr><td>3</td><td>Weiterleiten</td></tr> <tr><td>3</td><td>Weiterleiten</td></tr> </tbody> </table> | | Von | Beschreibung | 11 | Weiterleiten | 23 | Weiterleiten | 20 | Weiterleiten | 9 | Weiterleiten | 21 | Weiterleiten | 18 | Beantworten | 3 | Weiterleiten | 3 | Weiterleiten | <table border="1"> <thead> <tr> <th colspan="5">Anfragen</th> </tr> <tr> <th colspan="3">(von Ihnen ausgegangen)</th> <th colspan="2">(bei Ihnen eingegangen)</th> </tr> <tr> <th>Name</th> <th>gesendet</th> <th>bearbeitet</th> <th>empfangen</th> <th>bearbeitet</th> </tr> </thead> <tbody> <tr><td>3</td><td>2</td><td>50.00 %</td><td>3</td><td>0.00 %</td></tr> <tr><td>20</td><td>2</td><td>50.00 %</td><td>1</td><td>0.00 %</td></tr> <tr><td>22</td><td>0</td><td>0.00 %</td><td>0</td><td>0.00 %</td></tr> <tr><td>13</td><td>0</td><td>0.00 %</td><td>0</td><td>0.00 %</td></tr> <tr><td>14</td><td>1</td><td>100.00 %</td><td>1</td><td>100.00 %</td></tr> </tbody> </table> | | Anfragen | | | | | (von Ihnen ausgegangen) | | | (bei Ihnen eingegangen) | | Name | gesendet | bearbeitet | empfangen | bearbeitet | 3 | 2 | 50.00 % | 3 | 0.00 % | 20 | 2 | 50.00 % | 1 | 0.00 % | 22 | 0 | 0.00 % | 0 | 0.00 % | 13 | 0 | 0.00 % | 0 | 0.00 % | 14 | 1 | 100.00 % | 1 | 100.00 % |
| Von | Beschreibung | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Beantworten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Weiterleiten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Anfragen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (von Ihnen ausgegangen) | | | (bei Ihnen eingegangen) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name | gesendet | bearbeitet | empfangen | bearbeitet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 2 | 50.00 % | 3 | 0.00 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 2 | 50.00 % | 1 | 0.00 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 0 | 0.00 % | 0 | 0.00 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 0 | 0.00 % | 0 | 0.00 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 1 | 100.00 % | 1 | 100.00 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Abgesetzte Anfragen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| An | Antwort | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | (erhalten) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | (erhalten) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | (erhalten) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Warte seit: 1 Runden | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Warte seit: 3 Runden | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="button" value="Ignorieren"/> <input type="button" value="Verarbeiten / Weiterleiten"/> | | <input type="button" value="Anfrage absetzen"/> <input type="button" value="Nichts tun"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

The frame has five sections:

1. Upper left: Your ID. Please remember this ID because you will be paid regarding to your ID.
2. Bottom left: List of all incoming queries. With the buttons under the list you specify how to deal with an incoming query. 'Verarbeiten/Weiterleiten' (process/forward) (which of these options is true is mentioned in the list above) or 'Ignorieren.' (ignore)
3. Upper right: Your account. It depends on the gains from the (name, number) pairs and the expenditures for issuing queries, answering queries and forwarding of queries.¹
4. Middle right: Here a statistic shows you how your contacts behaved. Further you see how you behaved.
5. Bottom right: On the one hand you can issue new queries here on the other you get information about the queries you have issued so far. You issue a query if you push the 'Anfrage absetzen' (issue query) button. Then a menu opens. In this menu you can choose one of the participants from your list of known participants. In the list you see the status of queries that have not been answered so far

¹ Comment: As mentioned above additional contacts incur costs as well.

You can select players with whom you already interacted with every 5th round as additional contacts. Further, you can delete additional contacts from your list of known participants every 5th round. Every 5th round you will see the following frame with which you can add or delete additional contacts:



The frame shows the part of the network that you know. You are represented by the red rectangle. Green rectangles are your contacts. Grey rectangles are participants that you can add as additional contacts. If you press the right mouse button, a menu pops up with which you can add (or delete) an additional contact. If you want to have information about a contact, slide with your mouse over the contacts rectangle. An information frame will be shown that shows your contacts degree of cooperation and the costs the contact has incurred so far. As soon as you are ready with choosing contacts press the 'Fertig' (ready) button.

The game is round based. A round finishes if all participants have issued a query or have pressed the 'Nichts tun' (do nothing) button.

Important: If you want to process a query in a certain round, you must do that, before you issue your own query. Information about answered queries will be delivered immediately.

The game is played at least 20 rounds. Then we will role a dice to decide whether the game will be aborted. If it shows a '1' the game will be stopped, otherwise another round will be played.