

# Conference dinner

Tonight is a conference dinner with 26 guests. There are 4 dinner tables that can accommodate 6 or 7 guests each. The guests have notified the organisation of:

- **Their top three favourite dinner companions, and**
- **The one person they really want to avoid.**

Your goal is to find a seating arrangement that maximizes the total happiness of the guests:

- If a guest is seated at the same table as one of his favourite companions, the happiness increases with **3** for each of his/her favourites at his/her table.
- If a guest is seated with the one they wish to avoid, the total happiness goes down by **5**.
- Each table must have either 6 or 7 guests.

The guests and their preferences are listed on the next page. Find a seating arrangement that **maximizes the total happiness**.

## Guests and preferences

Guest	Favourites	Rather not...
Euclides	Gödel, Jacques Benders, Jan Karel Lenstra	Bernhard Riemann
Archimedes	Isaac Newton, Gödel, Laplace	Edsger Dijkstra
Pythagoras	Edsger Dijkstra, Erlang, Lagrange	Andrei Kolmogorov
Isaac Newton	Archimedes, Richard Bellman, John Nash	Jacques Benders
Edsger Dijkstra	George Boole, Richard Bellman, Gauss	Laplace
Leibniz	Lagrange, Paul Erdős, Gauss	Jacques Benders
Gauss	Jacques Benders, Alan Turing, Pythagoras	George Dantzig
George Dantzig	Lagrange, Jacques Benders, John Nash	David Hilbert
Leonhard Euler	Gödel, Erlang, Andrei Kolmogorov	Edsger Dijkstra
Jacques Benders	Paul Erdős, Isaac Newton, Leibniz	Riemann
Jan Karel Lenstra	Edsger Dijkstra, Bernhard Riemann, Jacques Benders	Lagrange
Lloyd Shapley	Alan Turing, George Dantzig, Jacques Benders	Richard Bellman
John von Neumann	Gauss, Laplace, George Dantzig	Edsger Dijkstra
John Nash	Jacques Benders, Leibniz, Richard Bellman	Jan Karel Lenstra
Erlang	Leibniz, Gödel, Andrei Kolmogorov	Isaac Newton
Gödel	John von Neumann, Laplace, George Dantzig	Leonhard Euler
Laplace	Erlang, Alan Turing, John Nash	Paul Erdős
Lagrange	Jacques Benders, Lloyd Shapley, George Boole	Richard Bellman
George Boole	David Hilbert, Richard Bellman, Bernhard Riemann	Leibniz
Bernhard Riemann	Jacques Benders, Leonhard Euler, Erlang	Archimedes
Alan Turing	Gauss, Euclides, Pythagoras	Lloyd Shapley
Andrei Kolmogorov	Lloyd Shapley, Pythagoras, Gauss	Alan Turing
Richard Bellman	George Boole, David Hilbert, Bernhard Riemann	Isaac Newton
David Hilbert	Edsger Dijkstra, Bernhard Riemann, Laplace	Leonhard Euler
Riemann	John Nash, George Boole, Bernhard Riemann	Gödel
Paul Erdős	Pythagoras, Jan Karel Lenstra, John Nash	Gödel

Table 1: Guest preferences