Max Cut:

- Nodes in Max Cut correspond to players in QTA.
- \( \forall e \in \{i,j\} \) with weight \( w_{ij} \), introduce a resource \( r_{ij} \in R_{iu} \)
  - Cost function: \( \frac{0}{\begin{array}{c} w_{ij} \\ \text{1 player} \\ \text{2 players} \end{array}} \)

- Cost function of threshold resource \( r_i \in R_{iud} \) of player \( i \) is \( T_i = \frac{1}{2} \sum_{j \neq i} w_{ij} \)

- Game is isomorphic to max-cut game

Consider a player in the max-cut game

Which side does \( i \) prefer?

- The side to which sum of incident edge weights is minimum.

\[
\begin{align*}
\text{cost}_i(U) &= \sum_{j \in U} w_{ij} \\
\text{cost}_i(W) &= \sum_{j \in W} w_{ij}
\end{align*}
\]

Alternative definition: (which preserves preferences)

\[
\begin{align*}
\text{cost}_i(U) &= \frac{1}{2} \sum_{e \in E} w_{ij} \\
\text{cost}_i(W) &= \frac{1}{2} \sum_{e \in E} w_{ij}
\end{align*}
\]