Diskrete Mathe Übung 11

Note Title 22.06.2007

Z 14.)

! min $\frac{n}{2}$ Bäume ?

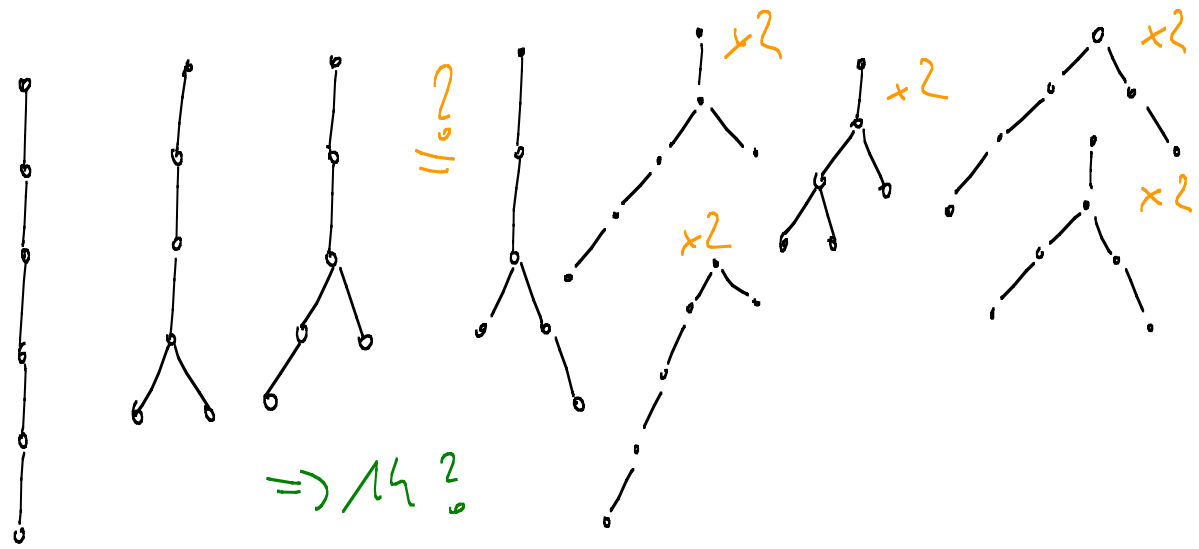
kleinster Baum
(n=2, m=1, f=1)

m Kanten → m+1 Knoten ⇒ $\frac{m+1}{2}$ Bäume

m Kanten ⇒ m Bäume möglich

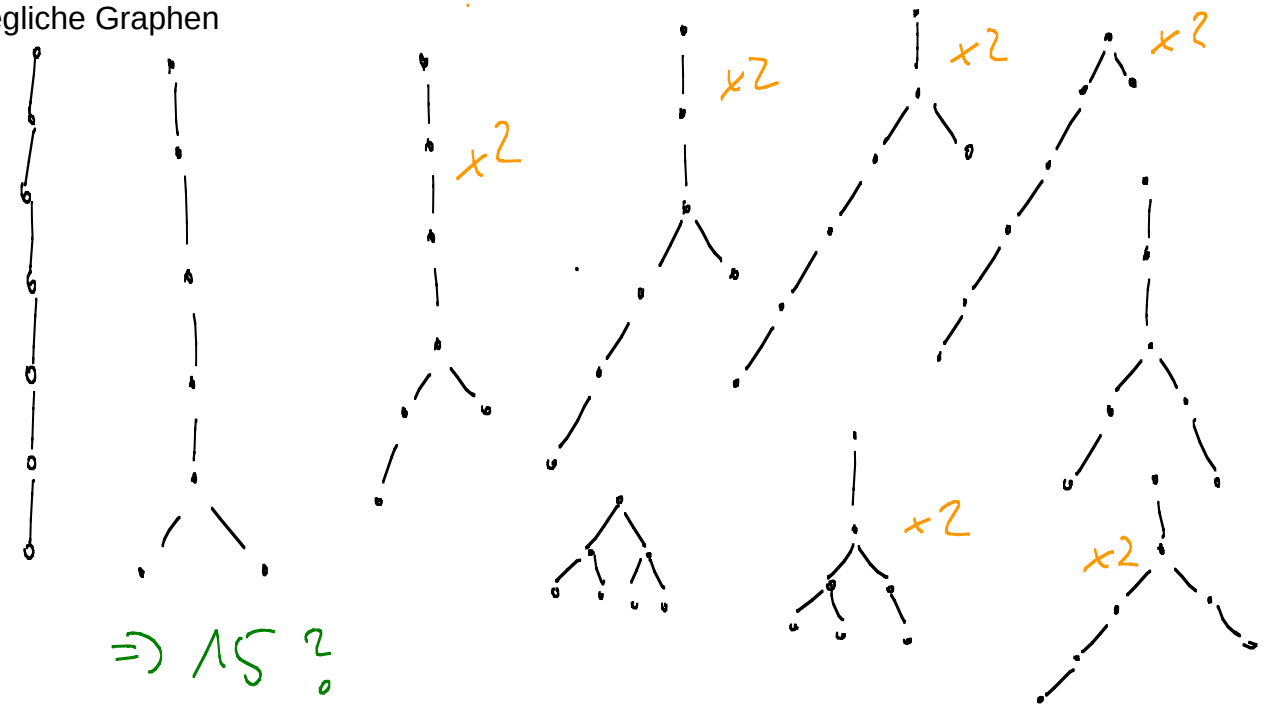
Z 15.)

a.)

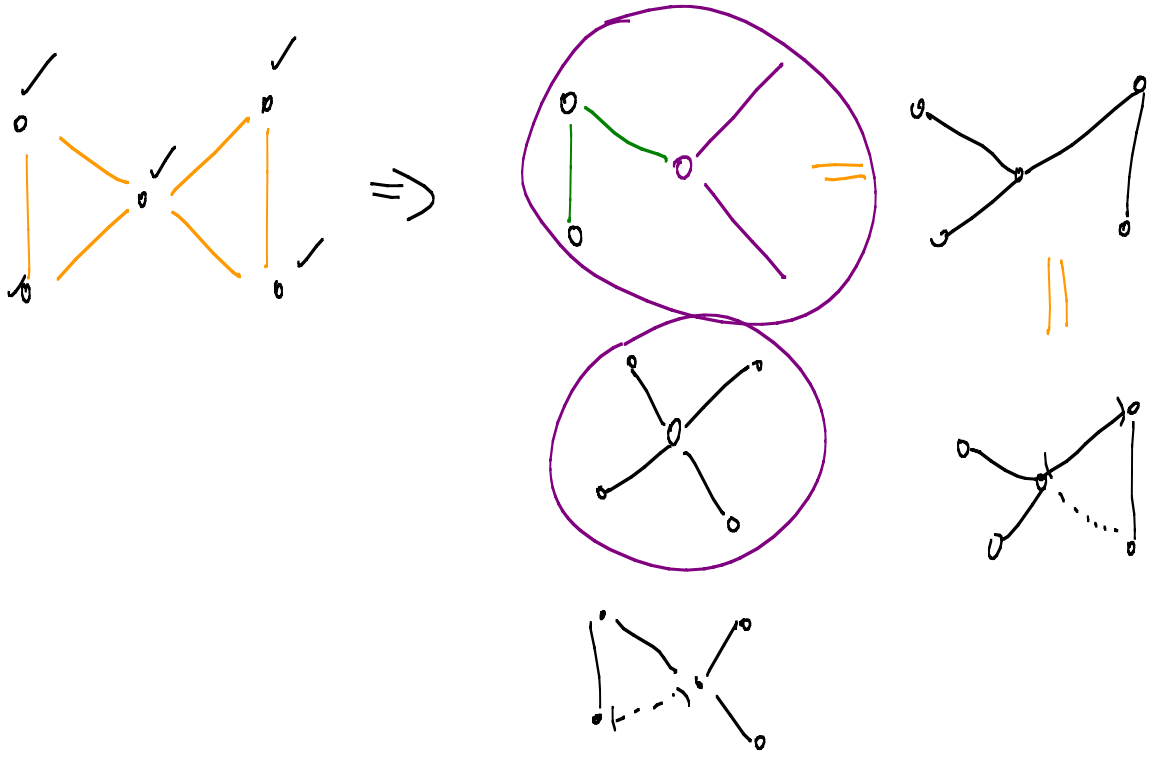


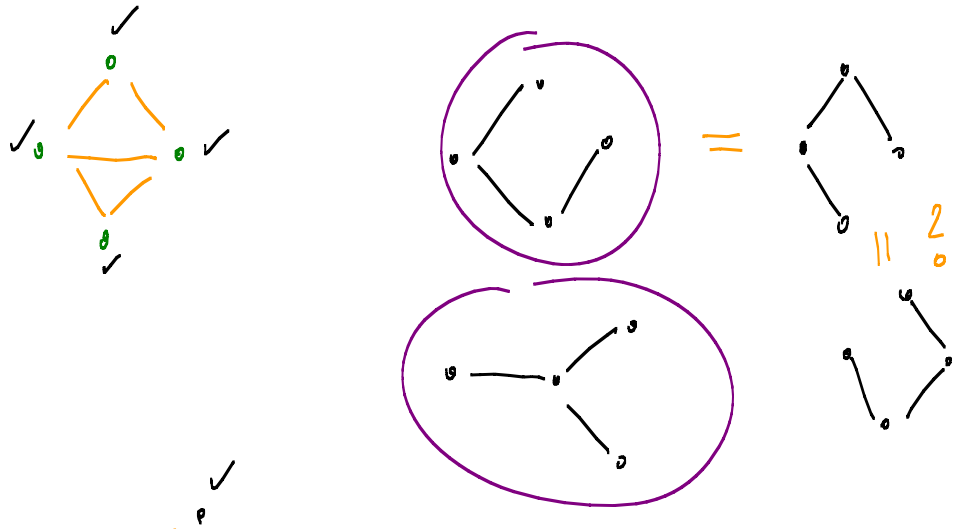
laut Cayley n^(n-2) moeglichkeiten, jedoch wird die Knotenposition nicht variiert, daher nur 5 Moegliche Graphen

b.)

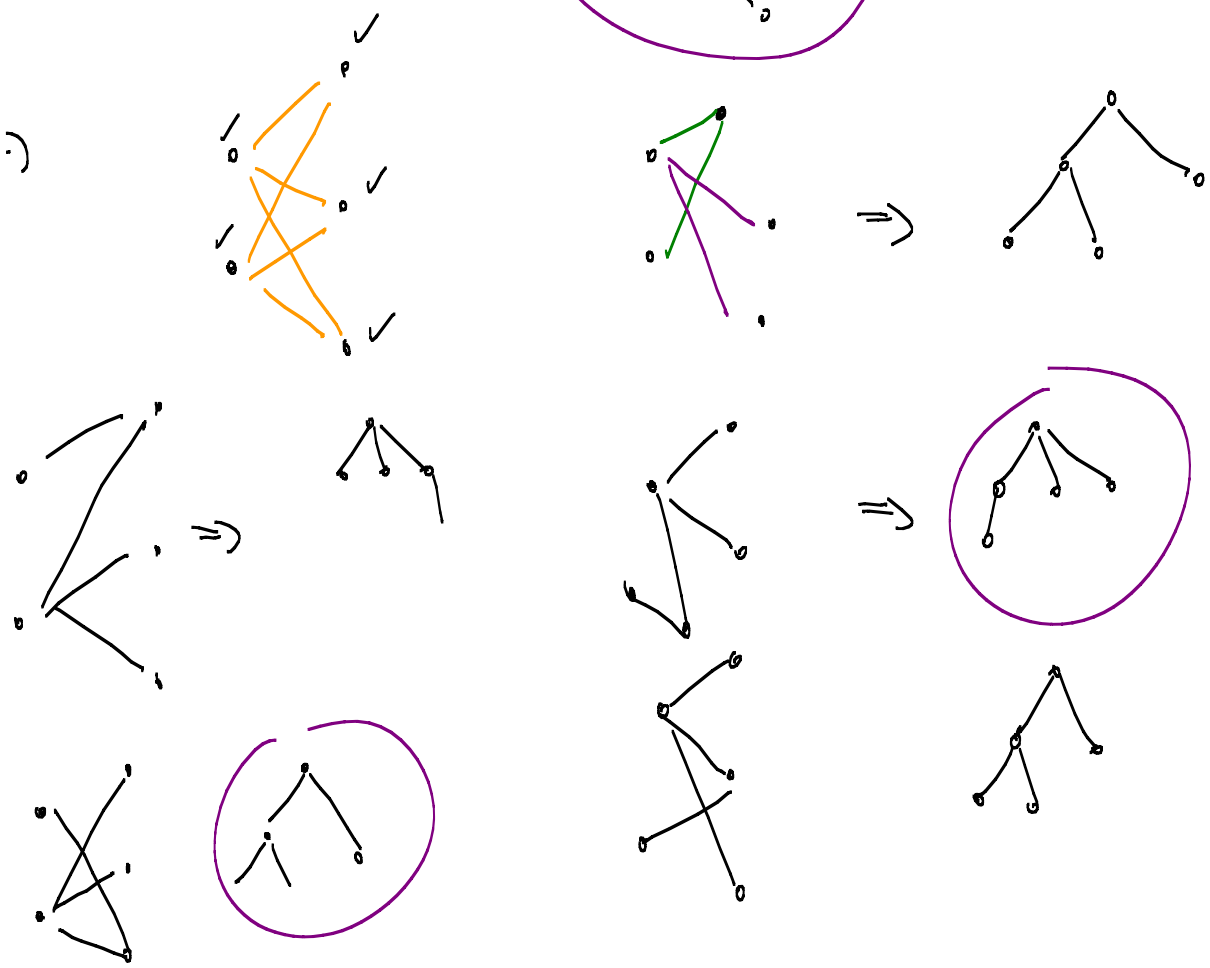


Z16.)

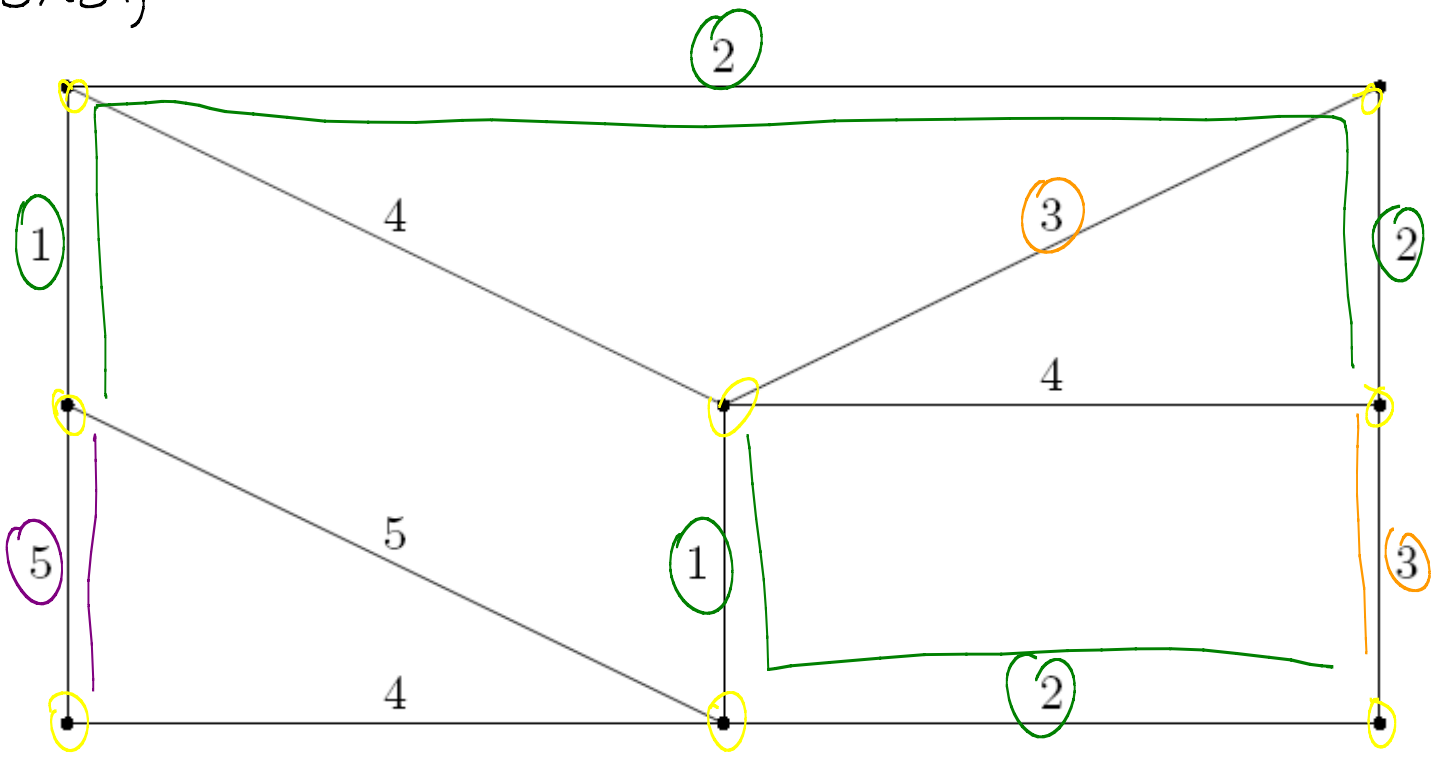




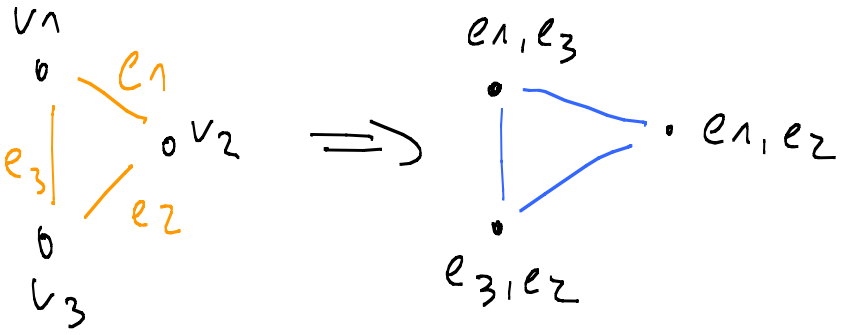
Z17.)



Z18.)



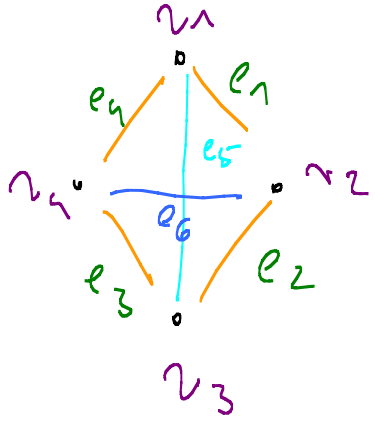
Z19.)



$e_1, e_2 \to v_2$

$e_1, e_3 \to v_1$

$e_2, e_3 \to v_3$



$e_1, e_2 \to v_2$

$e_1, e_4 \to v_1$

$e_1, e_5 \to v_1$

$e_1, e_6 \to v_2$

$e_2, e_5 \to v_2$

$e_2, e_3 \to v_3$

$e_2, e_6 \to v_3$

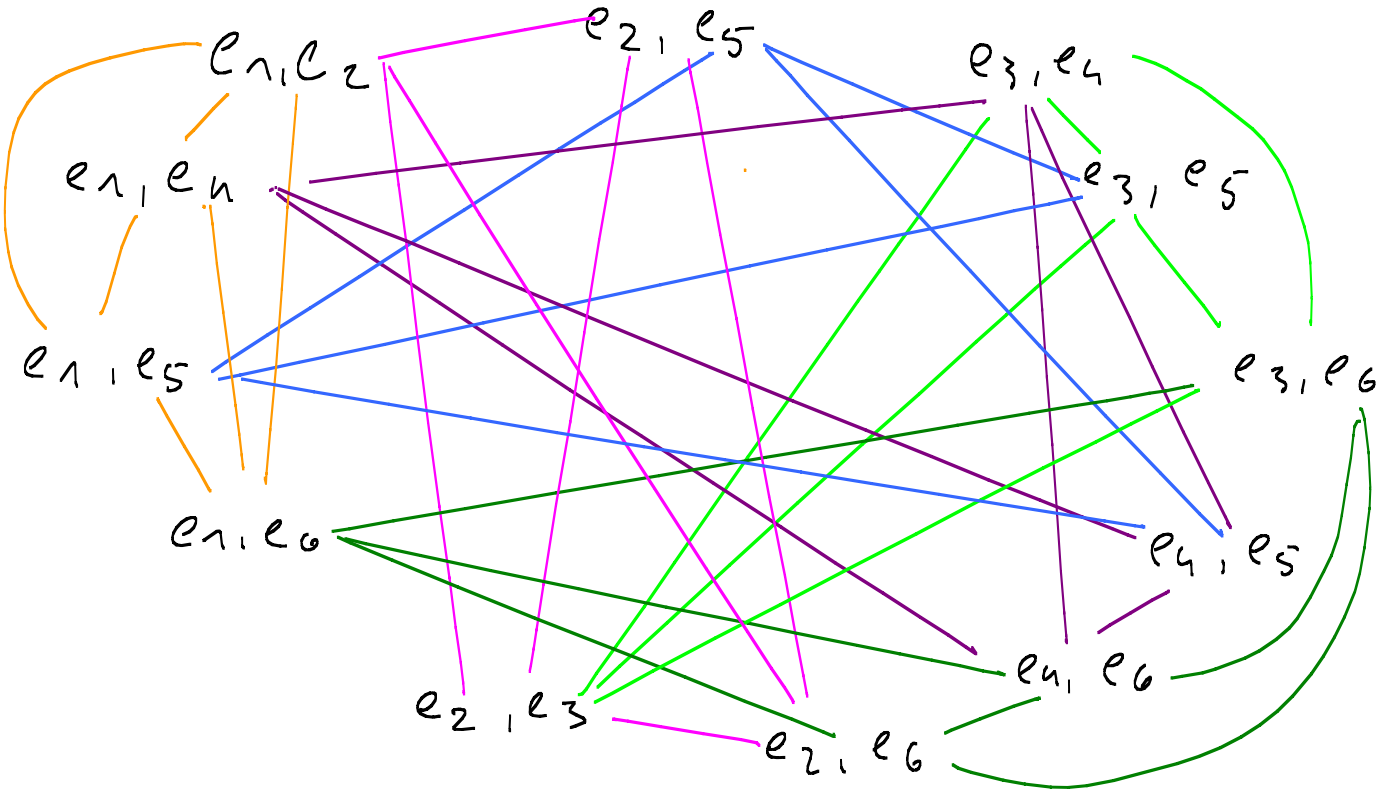
$e_3, e_4 \to v_4$

$e_3, e_5 \to v_3$

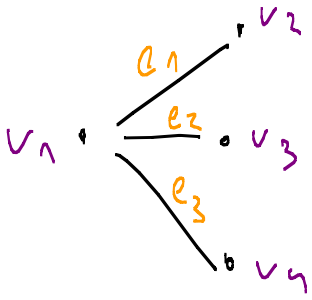
$e_3, e_6 \to v_4$

$e_4, e_5 \to v_1$

$e_4, e_6 \to v_4$



$K_{1,3}$

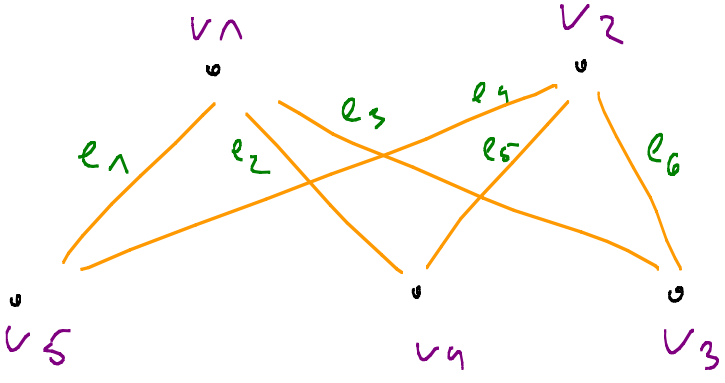


$e_1, e_2 \rightarrow v_1$

$e_2, e_3 \rightarrow v_1$

$e_3, e_1 \rightarrow v_1$

$K_{2,3}$



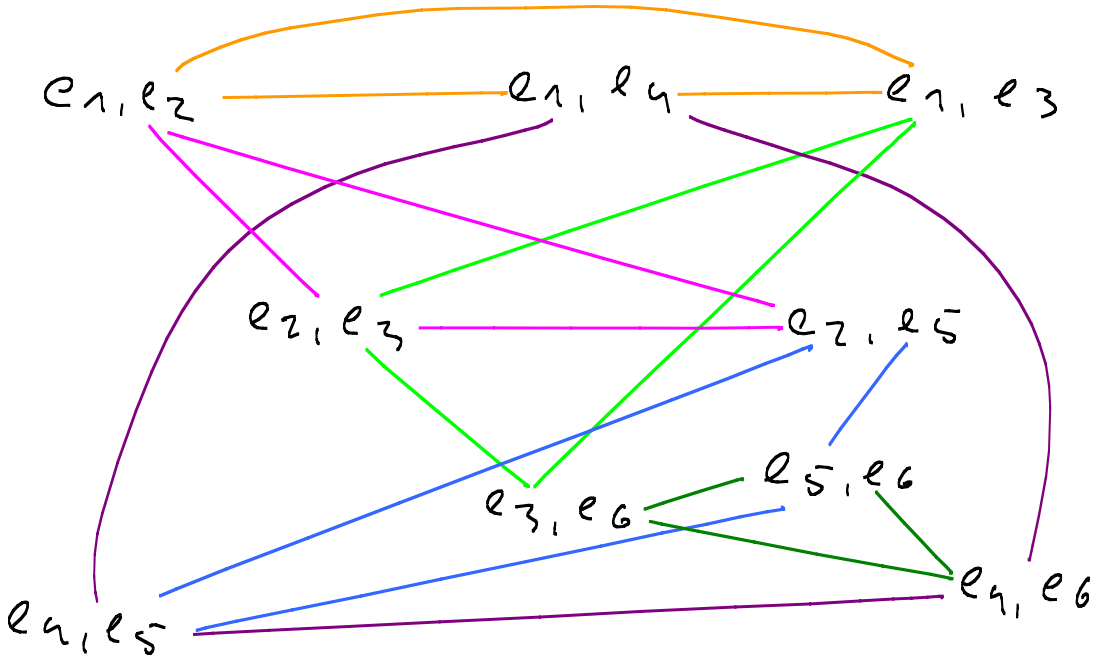
$e_1, e_2 \to v_1$ $\quad e_2, e_3 \to v_1$ $\quad e_3, e_6 \to v_3$

$e_1, e_4 \to v_5$ $\quad e_2, e_5 \to v_4$

$e_1, e_3 \to v_1$

$e_4, e_5 \to v_2$ $\quad e_5, e_6 \to v_2$

$e_4, e_6 \to v_2$



20.) Euler Kreis $\Rightarrow$ alle Knoten gerader Grad

Ziel = Ende & Euler Kreis $\Rightarrow$ gerade Kantenzahl

gerade Kantenzahl $\Rightarrow \exists$ Eulerkreis im

Kantengraph da Knotenzahl gerade;

selbige Überlegung sollte auch die

Umkehrung gestatten;