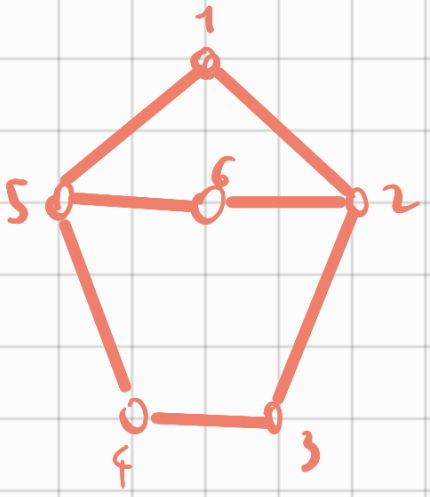
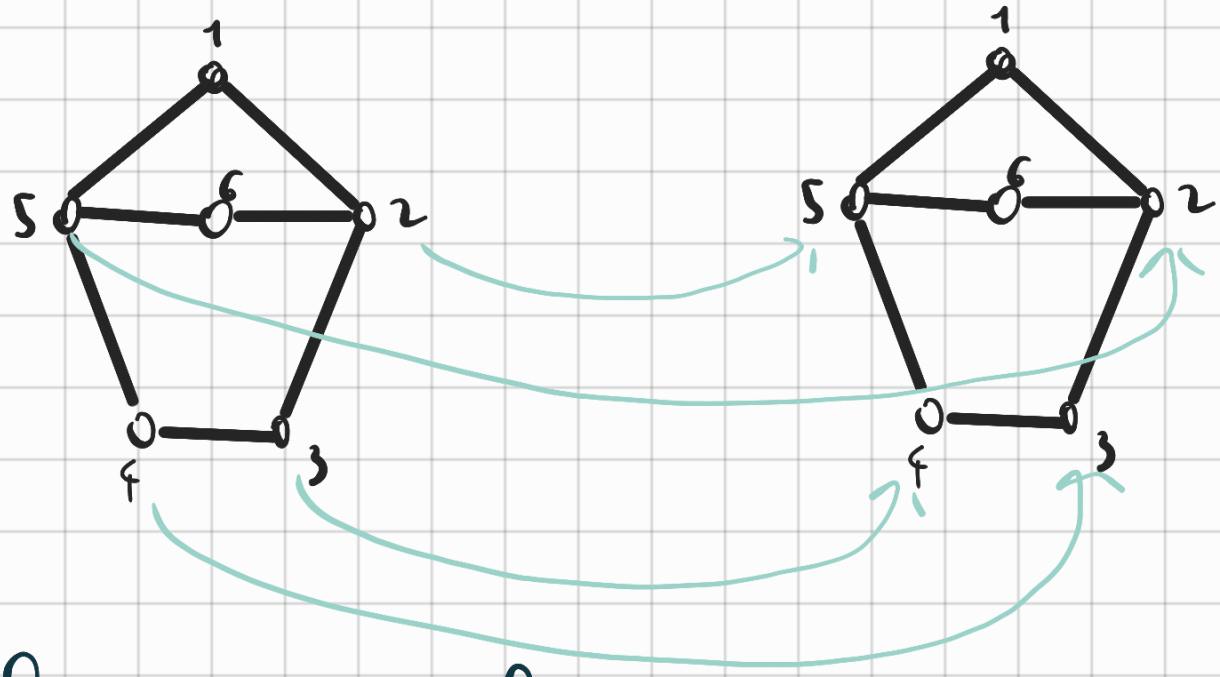
TROVARE TUTTI GLI ISOMORFISMI DA G IN G DOVE

G =





1) $f(5)=2$ e $f(2)=5$

... $\Longrightarrow$ POICHÉ $\{4,5\}\in E$ e $\{4,2\}\notin E$

$\Longrightarrow \{f(4),2\}\in E$ e $\{f(4),5\}\notin E \Longrightarrow f(4)=3$

SIMILE $\{3,2\}\in E$ e $\{3,5\}\notin E$

$\Rightarrow \{f(3), 5\} \in E$ e $\{f(3), 2\} \notin E \Rightarrow f(3) = 4$

Ma anche $\{6, 5\} \in E$ e $\{6, 2\} \notin E$

$\Rightarrow \{f(6), 5\} \in E$ e $\{f(6), 2\} \in E$

$\Rightarrow f(6) = \{1, 6\}$. simil. $\Rightarrow f(1) = \{1, 6\}$.

Quindi

$f(1) = 1$ e $f(6) = 6$

o

$f(6) = 1$ e $f(1) = 6$

Pertanto, o

$f(1) = 1$, $f(2) = 5$, $f(3) = 4$, $f(4) = 3$, $f(5) = 2$, $f(6) = 6$

o

$f(1) = 6$, $f(2) = 5$, $f(3) = 4$, $f(4) = 3$, $f(5) = 2$, $f(6) = 1$

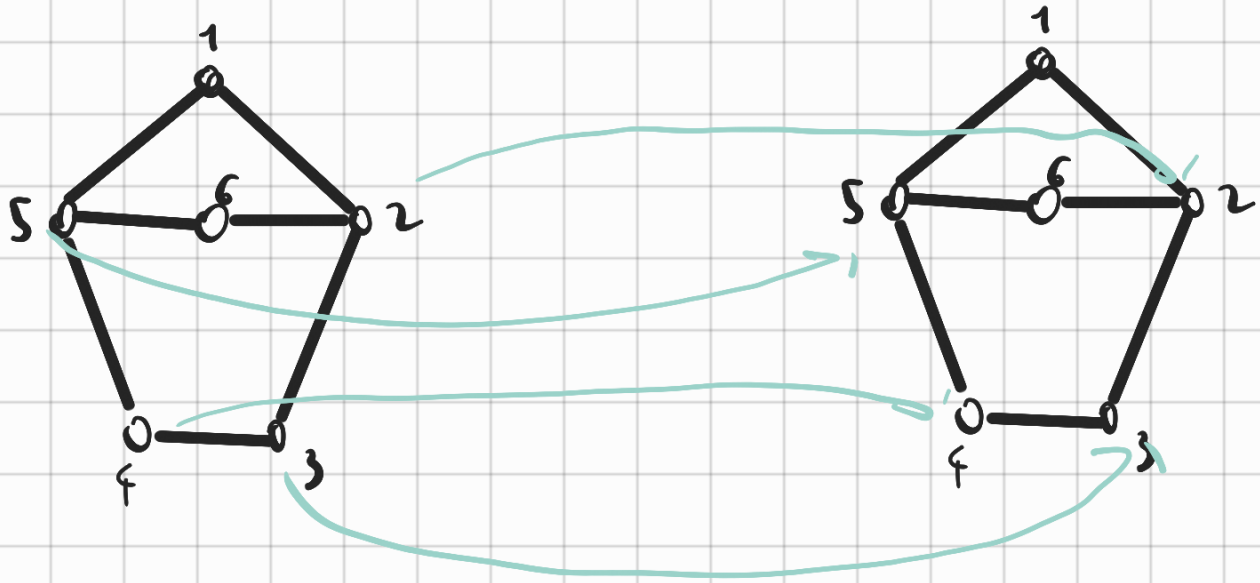
È facile vedere che sono entrambi isomorfismi.

2) $f(5) = 5$ e $f(2) = 2$

$\Rightarrow \{5, 2\} \in E$ e $\{5, 2\} \in E$

Poiché $\{4,5\} \in E$ e $\{4,2\} \notin E \Rightarrow$

$\{f(4), 5\} \in E$ e $\{f(4), 2\} \notin E \Rightarrow f(4) = 4$



Simil. $f(3) = 3$, infatti $\{1,5\} \in E$ e

$\{1,2\} \in E \Rightarrow \{f(1), 5\} \in E$ e $\{f(1), 2\} \in E$

$\Rightarrow f(1) \in \{1,6\}$. Simil. $f(6) \in \{1,6\}$.

Pertanto o

$f(1)=1, f(2)=2, f(3)=3, f(4)=4, f(5)=5, f(6)=6$

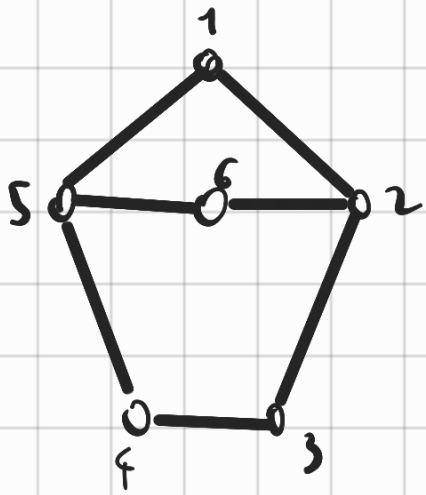
o

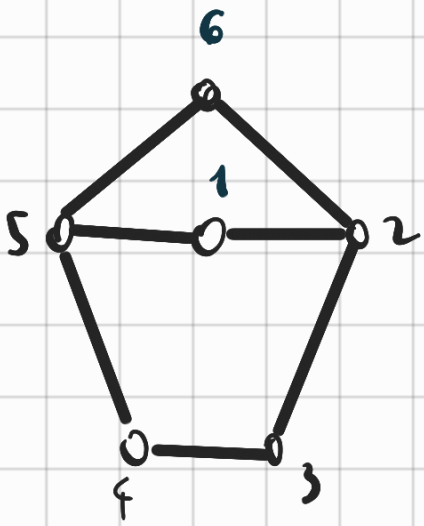
$f(1)=6, f(2)=2, f(3)=3, f(4)=4, f(5)=5, f(6)=1$

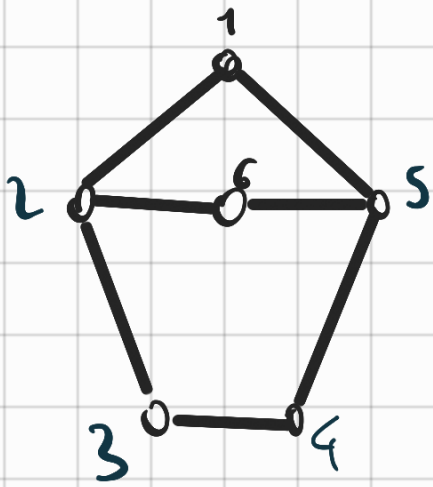
È facile vedere che sono isomorfismi

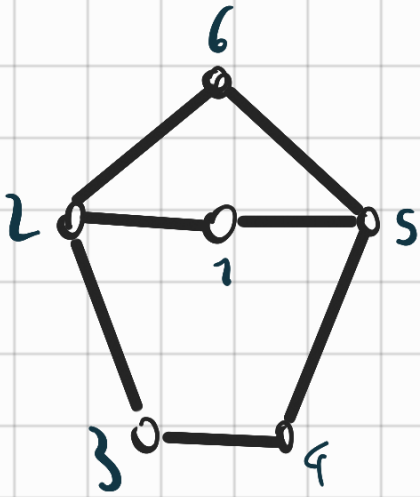
Graficamente questi sono isomorfismi

GRAFICAMENTE SONO:



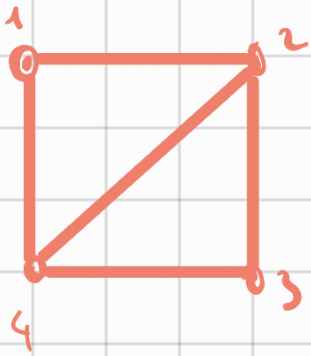


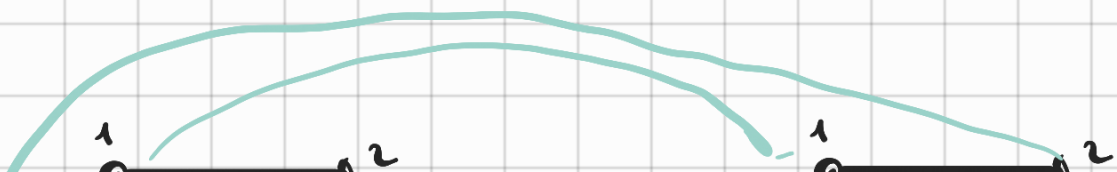


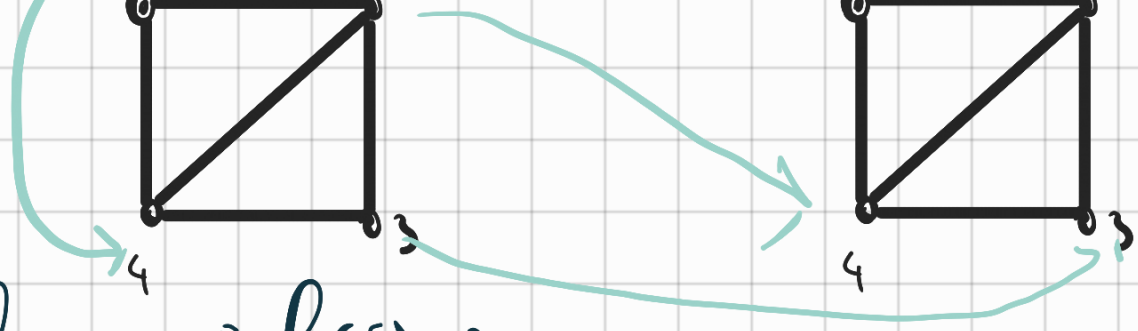


TROVARE TUTTI GLI ISOMORFISMI DI G IN G DOVE

G =







1) $f(1)=4$ i $f(4)=2$

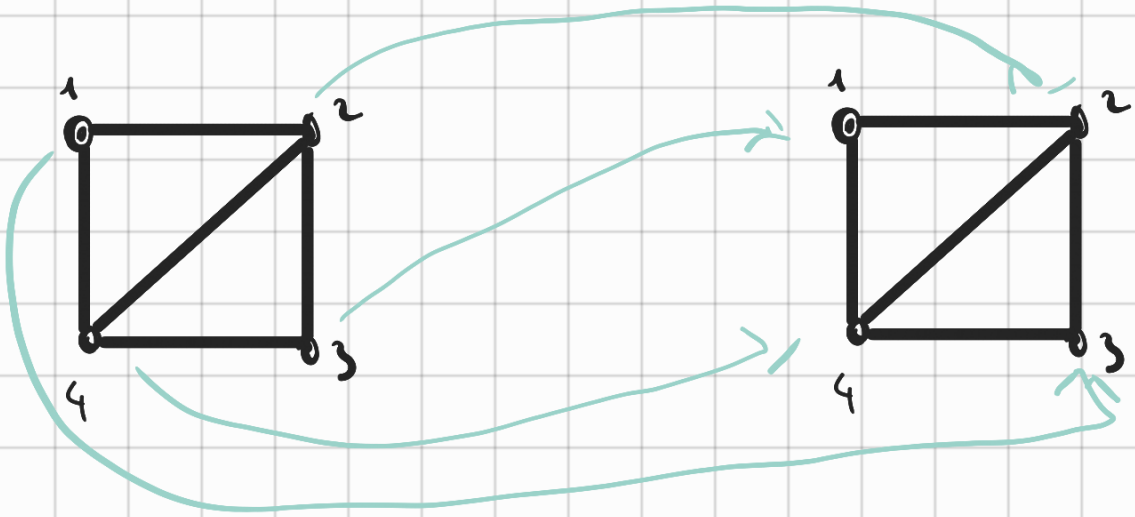
$\Rightarrow$ Poiché $\{2,1\}\in E$, $\{2,3\}\in E$ i $\{2,4\}\in E$

$\Rightarrow \{f(4),1\}\in E$, $\{f(4),3\}\in E$ i $\{f(4),f(3)\}\in E$

Simil. Poiché $\{4,1\}\in E$, $\{4,3\}\in E$ i $\{4,2\}\in E$

$\Rightarrow \{f(1),1\}\in E$, $\{f(1),3\}\in E$, $\{f(2),f(1)\}\in E$

2)



$f(1)=3$ i $f(3)=1$

$\Rightarrow$ Poiché $\{3,2\}\in E$, $\{3,4\}\in E$ i $\{3,1\}\notin E$

$\Rightarrow \{f(1),2\}\in E$, $\{f(1),4\}\in E$ i $\{f(1),f(3)\}\notin E$

Simil. per 1 i $f(3)$

3) $f(1)=1$, $f(2)=3$, $f(3)=2$, $f(4)=4$

5) $f(1)=4$, $f(2)=2$, $f(3)=3$, $f(4)=1$

4) $f(1)=3$, $f(3)=1$, $f(2)=4$, $f(4)=2$

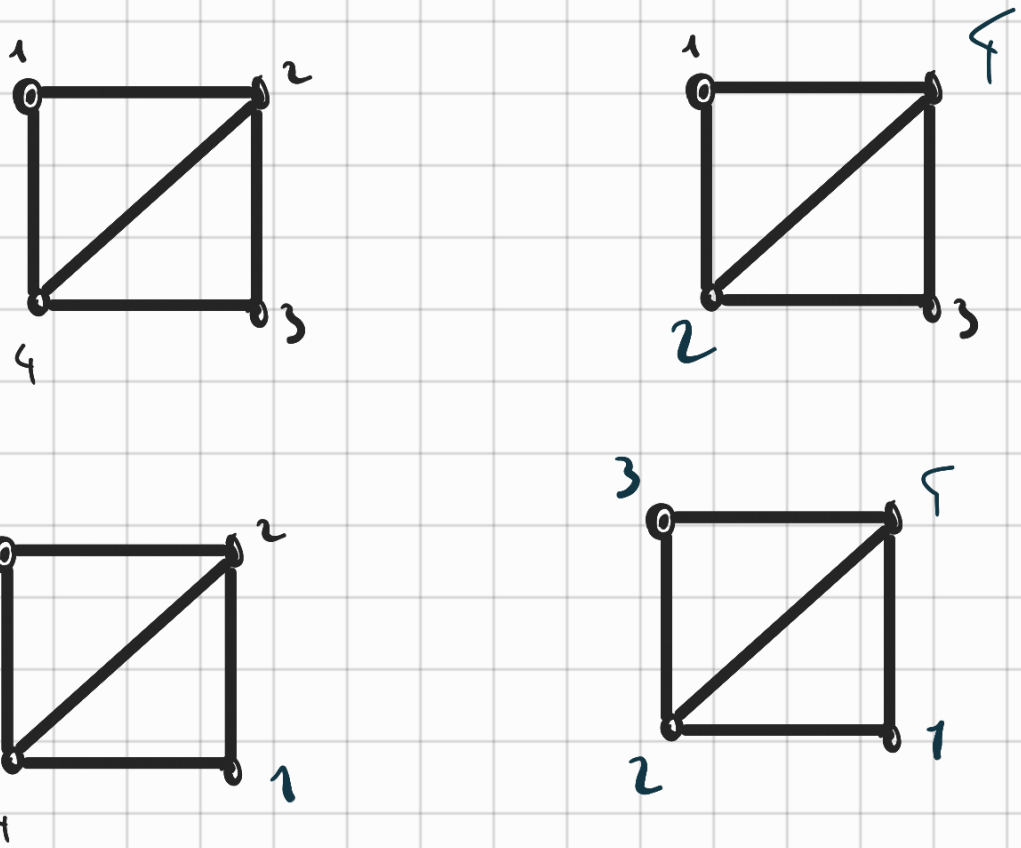
$\Rightarrow$ poiché $\{2,1\}\in E$, $\{2,3\}\in E$ e $\{2,4\}\in E$

$\Rightarrow \{f(1),f(3)\}\in E$, $\{f(4),f(1)\}\in E$ e $\{f(4),f(2)\}\in E$

$\Rightarrow$ simile per $f(2)$

$\Rightarrow$ poiché $\{3,2\}\in E$, $\{3,4\}\in E$ e $\{3,1\}\notin E$

$\Rightarrow \{f(1),f(4)\}\in E$, $\{f(1),f(2)\}\in E$ e $\{f(1),f(2)\}\notin E$

$\Rightarrow$ simile per $f(3)$.

Graficamente gli isomorfismi sono