

$$\overbrace{(\neg e \vee b \vee c)}^{S_1} \wedge \overbrace{(\neg b \vee c)}^{S_2} \wedge \overbrace{(e \vee \neg b \vee \neg e)}^{S_3}$$

e	b	c	$\neg e$	$\neg b$	$\neg c$	S_1	S_2	S_3	$S_1 \wedge S_2 \wedge S_3$
0	0	0	1	1	1	1	1	1	1
0	0	1	1	1	0	1	1	1	1
0	1	0	1	0	1	1	0	1	0
0	1	1	1	0	0	1	1	0	0
1	0	0	0	1	1	0	1	1	0
1	0	1	0	1	0	1	1	1	1
1	1	0	0	0	1	1	0	1	0
1	1	1	0	0	0	1	1	1	1

$$\overbrace{(\neg e \vee c)}^{S_1} \wedge \overbrace{(\neg b \vee e)}^{S_2} \wedge \overbrace{(e \vee \neg b \vee \neg c)}^{S_3}$$

e	b	c	$\neg e$	$\neg b$	$\neg c$	S_1	S_2	S_3	$S_1 \wedge S_2 \wedge S_3$
0	0	0	1	1	1	1	1	1	1
0	0	1	1	1	0	1	1	1	1
0	1	0	1	0	1	1	0	1	0
0	1	1	1	0	0	1	1	0	0
1	0	0	0	1	1	0	1	1	0
1	0	1	0	1	0	1	1	1	1
1	1	0	0	0	1	0	0	1	0
1	1	1	0	0	0	1	1	1	1

Le 2 espressioni logiche sono equivalenti

2)

$$A \Delta B \Delta C = A$$

$$A \Delta (B \Delta C) = (A \Delta B) \Delta C$$

A	B	C	$B \Delta C$	$A \Delta (B \Delta C)$
0	0	0	0	0
0	0	1	1	1
0	1	0	1	1
0	1	1	0	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	0	1

A	B	C	$A \Delta B$	$(A \Delta B) \Delta C$
0	0	0	0	0
0	0	1	0	1
0	1	0	1	1
0	1	1	1	0
1	0	0	1	1
1	0	1	1	0
1	1	0	0	0
1	1	1	0	1

3)

$$11^{13} \bmod 17$$

$$17^{13} \bmod 11$$

$$11^2 \cdot 11^2 \cdot 11^2 \cdot 11^2 \cdot 11^2 \cdot 11^2 \cdot 11 \bmod 17$$

$$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 11 \bmod 17$$

$$64 \cdot 11 \bmod 17$$

$$\begin{array}{r} 39 \\ 51 \end{array}$$

$$143 \bmod 17 = 7$$

$$17^{13} \bmod 11$$

$$\varphi(11) = 10$$

$$17^3 \bmod 11$$

$$17 \cdot 17 \cdot 17 \bmod 11$$

$$6 \cdot 6 \cdot 6 \bmod 11 = 7$$

4)

$$(a \equiv g - 2n \mid \bmod 7$$

$$(10g + n \equiv g - 2n \mid \bmod 7$$

$$9g + 3n \equiv 0 \bmod 7$$

$$3g + n \equiv 0 \bmod 7$$

5)

$$\frac{2 \cdot 3 \cdot 4}{\binom{9}{3}} = \frac{\cancel{24}^{\cancel{12}^{\cancel{6}^2}}}{\cancel{84}^{\cancel{42}^{\cancel{21}^7}}} = \frac{2}{7}$$

6)

7)

8) Possiede un cammino ma non un ciclo euleriano,
possiede anche un cammino hamiltoniano