$$P = \frac{\#\text{ Cas favorables}}{\#\text{ Cas au total}}$$

$\#F$: nbre d'éléments selon condition

Taille de l'univers $\#U$: nbre d'éléments de l'univers

4.2.3

$$\#U = C_3^{36} = \frac{36 \cdot 35 \cdot 34}{3!} = 7140$$

a)

$$\#F = C_3^4 = 4$$

$$p(3AS) = \frac{\#F}{\#U} = \frac{4}{7140} = \frac{2}{3570} = \frac{1}{1785}$$

b) $$p(2R\,1D) = \frac{\#F}{\#U} = \frac{24}{7140} = \frac{2}{595} \simeq 0{,}34\,\%$$

$$\simeq 0{,}003361$$

$$C_2^4 \cdot C_1^4 = 6 \cdot 4 = 24 = \#F$$

c) $\#U = 7140$

0 VALET

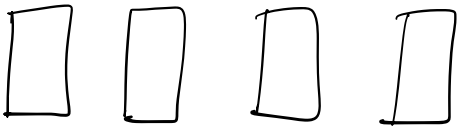
$$\#F = C_3^{36} - C_3^{32}$$

$$C_1^4 \cdot C_2^{32} + C_2^4 \cdot C_1^{32} + C_3^4 \cdot C_0^{32}$$

$$P = \frac{C_3^{36} - C_3^{32}}{7140} = \frac{7140 - C_3^{32}}{7140}$$

$$= 1 - \frac{C_3^{32}}{7140}$$

4.2.4

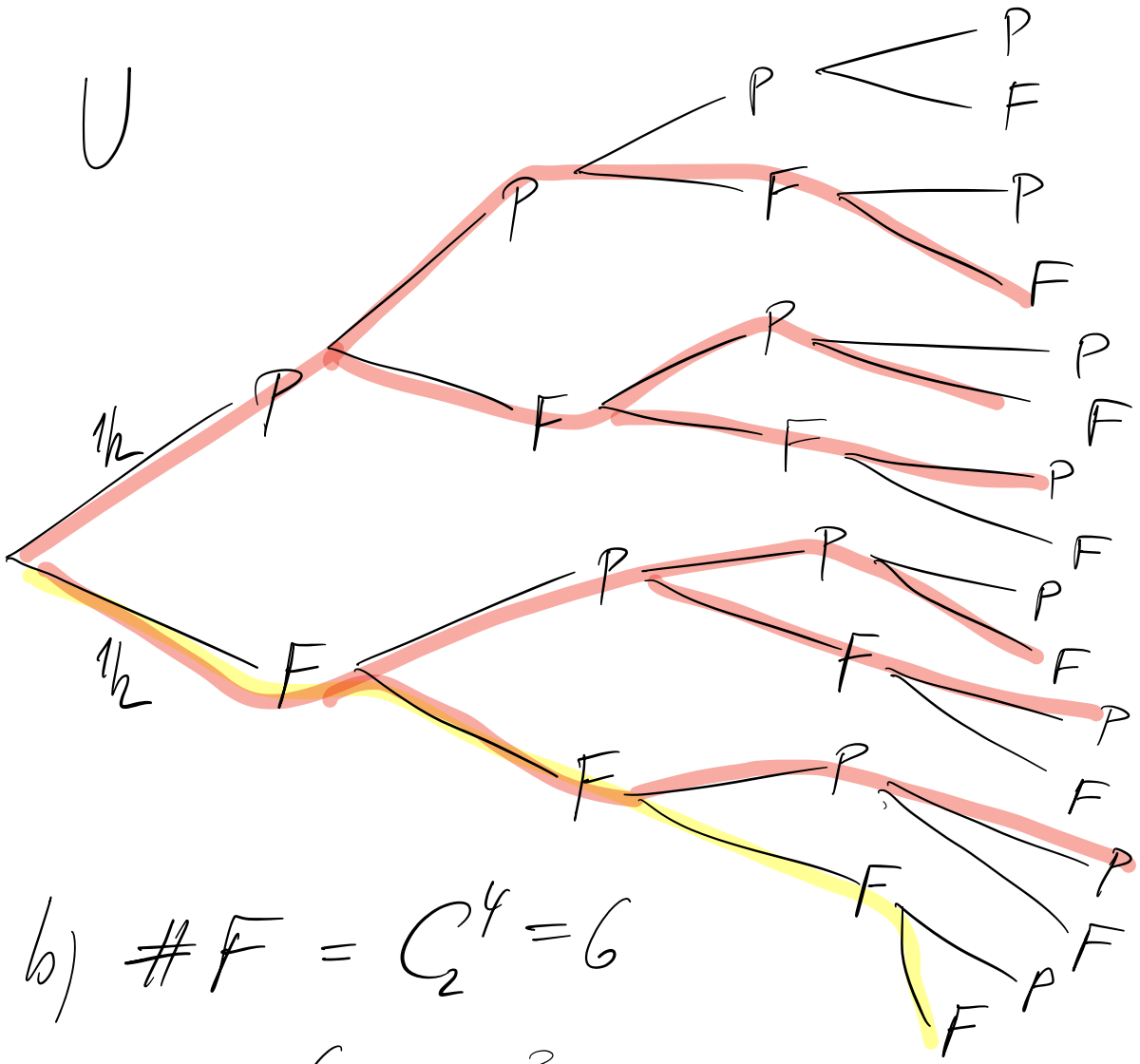


$$\overline{A}_4^2 = \boxed{2 \cdot 2 \cdot 2 \cdot 2} = 2^4 = 16 = \#U$$

a) 2 fois pile, suivi de 2 fois pce.

1 événement $\#F = 1$

$$P = \frac{\#F}{\#U} = \frac{1}{16} = 0{,}0625$$



b) $\#F = C_2^4 = 6$

$p = \frac{6}{16} = \frac{3}{8} = 0{,}375$

$0 < p < 1$ $\qquad 0{,}375 = 37{,}5\,\% = \frac{3}{8}$

c) $\frac{15}{16} = 93{,}75\,\%$

PAS DE P

$\frac{16}{16} - \frac{1}{16}$

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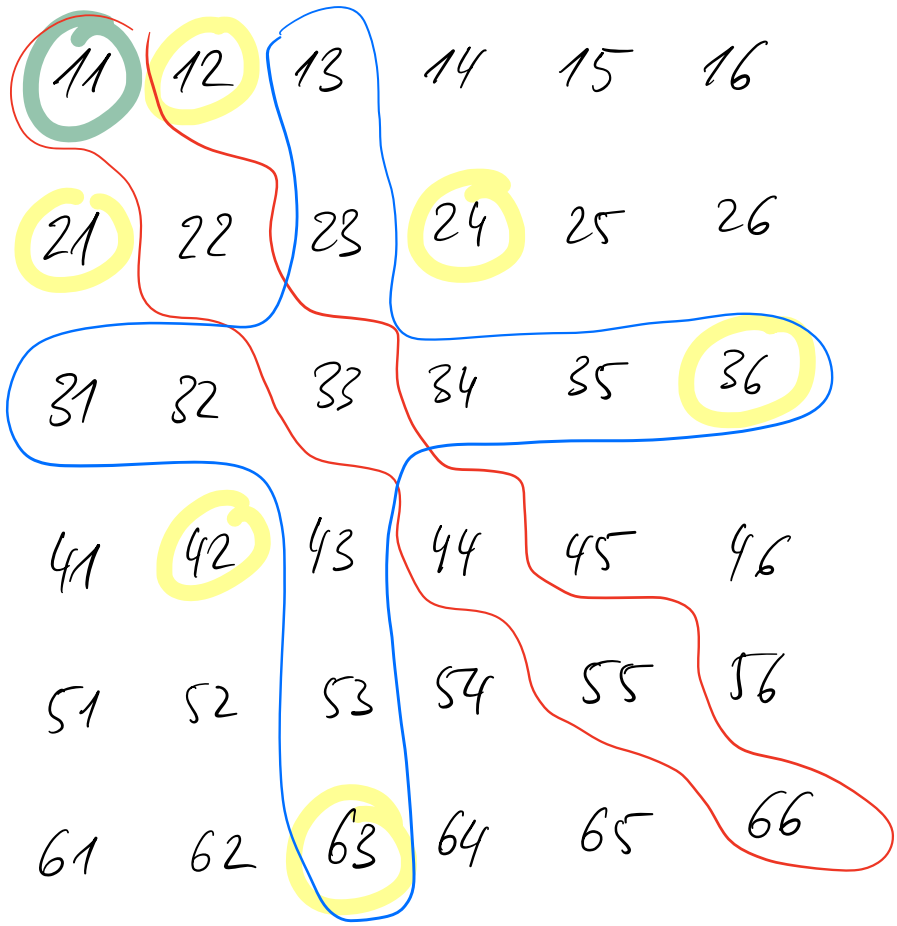
4.2.5



$P(\text{double}) = \frac{6}{36}$

$P(\text{au moins 1 fois 3}) = \frac{11}{36}$