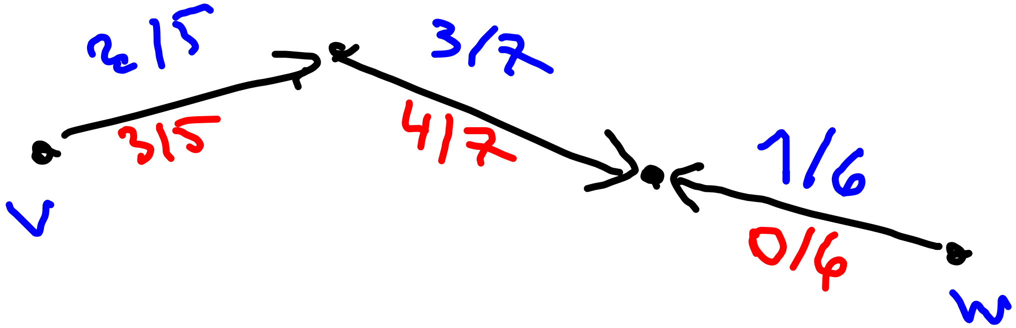
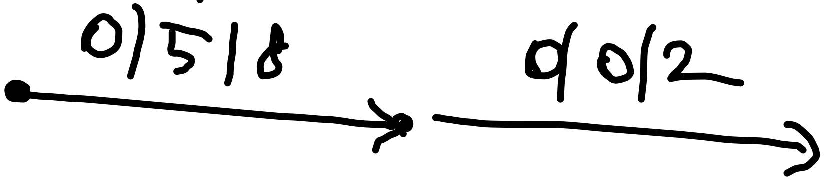
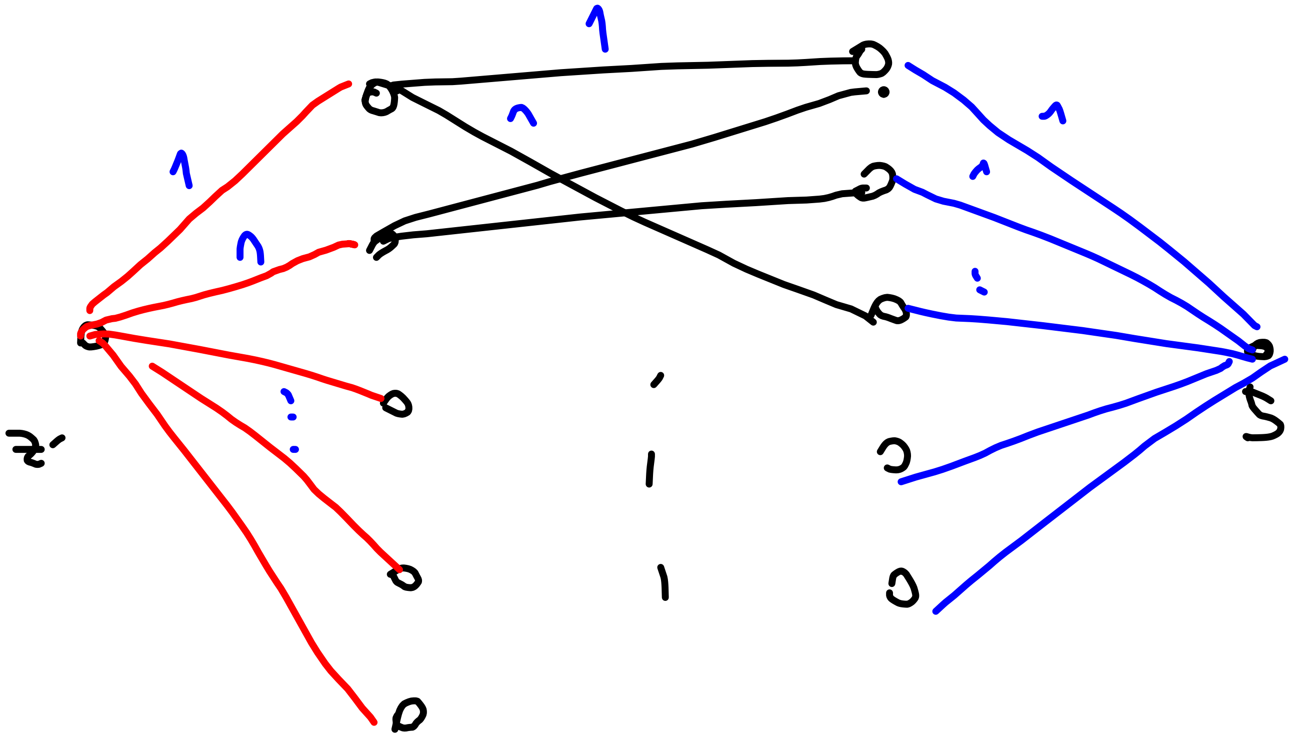


tok min/max



není přípustný tok

párování



$$\frac{1}{1-x}\cdot\frac{1}{1-x^2}\cdot\frac{1}{1-x^5}\cdot\frac{1}{1-x^{10}}\cdot\frac{1}{1-x^{20}}\cdot\frac{1}{1-x^{50}}$$

chci rozvinout do mocninné řady

a zjistit koeficient u x^{100}

$$1+x+x^2+x^3+\dots=\frac{1}{1-x}\qquad |x|<1$$

$\underline{x=2}$ $\quad 1+2+2^2+2^3+\dots \cancel{=} \frac{1}{1-2}=-1$

Taylor: $f(x)=\frac{1}{1-x}$, $f'(x)=\frac{1}{(1-x)^2}=(1-x)^{-2}$

$f''(x)=+2(1-x)^{-3}$, $f'''(x)=6(1-x)^{-4}$, ...

$$f(x)=f(0)+\sum_{n=1}^{\infty}\frac{f^{(n)}(0)}{n!}x^n=1+\sum_{n=1}^{\infty}\frac{n!}{n!}x^n=1+x+x^2+\dots$$

$$a(x) \longleftrightarrow a_0, a_1, \dots$$

$$b(x) \longleftrightarrow b_0, b_1, b_2, \dots$$

$$a(x)+b(x) \longleftrightarrow a_0+b_0, a_1+b_1, \dots$$

$$a(x) = \sum_{n=0}^{\infty} a_n x^n, \quad b(x) = \sum_{n=0}^{\infty} b_n x^n$$

$$x^k a(x) \longleftrightarrow \underbrace{0, 0, \dots, 0,}_{k} a_0, a_1, \dots$$

$$\sum_{n=k}^{\infty} a_{n-k} x^n = \sum_{n=0}^{\infty} a_n x^{n+k}$$

$$a(\alpha \cdot x) \longleftrightarrow \alpha^0 a_0, \alpha^1 a_1, \alpha^2 \cdot a_2, \dots$$

$$a(x^2) \longleftrightarrow a_0, 0, a_1, 0, a_2, \dots$$

$$a(x) \longleftrightarrow a_0, a_1, \dots$$

$$a(\alpha \cdot x) = \sum_{n=0}^{\infty} a_n (\alpha \cdot x)^n = \sum_{n=0}^{\infty} \alpha^n \cdot a_n \cdot x^n$$

$$a(x^2) = \sum a_n (x^2)^n = \sum_{n=0}^{\infty} a_n \cdot x^{2n}$$

$$\frac{2}{(1-x)^3} \longleftrightarrow a_k \qquad a_k = (k+2)(k+1)$$

$$= k^2 + 3k + 2$$

$$\frac{1}{(1-x)^2} \longleftrightarrow (1, 2, 3, \dots)$$

$$b_k = k+1$$

$$\frac{2}{(1-x)^3} - \frac{1}{(1-x)^2} \longleftrightarrow (k^2 + 3k + 2) - (k+1) =$$

$$= (k+1)^2$$

Název: XII 9-13:41 (6 z 6)