$$\boxed{\text{Z5}}$$

$$\boxed{d_{n+1} \overset{\text{Z listy5}}{=} (n+1)!\left(1-\frac{1}{1!}+\frac{1}{2!}+\dots+\frac{(-1)^{n+1}}{(n+1)!}\right) \Rightarrow d_{n+1}=n(d_n+d_{n-1})}$$

<u>d-d</u>

$$d_{n-1} = (n-1)!\left(1-\frac{1}{1!}+\dots+\frac{(-1)^{n-1}}{(n-1)!}\right) \quad / \cdot n$$

$$n\, d_{n-1} = n!\left(1-\frac{1}{1!}+\dots+\frac{(-1)^{n-1}}{(n-1)!}\right) \quad / + (-1)^n$$

$$n\, d_{n-1} + (-1)^n = n!\underbrace{\left(1-\frac{1}{1!}+\dots+\frac{(-1)^{n-1}}{(n-1)!}+\frac{(-1)^n}{n!}\right)}_{\frac{d_n}{n!}} = d_n$$

$$\overset{*}{\boxed{d_n = n\, d_{n-1} + (-1)^n}}$$

$$d_{n+1} = (n+1)n!\Big(\underbrace{1-\frac{1}{1!}+\dots+}_{\frac{d_n}{n!}}\frac{(-1)^{n+1}}{(n+1)!}\Big)$$

$$d_{n+1} = (n+1)n!\left(\frac{d_n}{n!}+\frac{(-1)^{n+1}}{(n+1)!}\right)$$

$$d_{n+1} = (n+1)\left(d_n + \frac{(-1)^{n+1}}{\cancel{(n+1)!}\ n+1}\cancel{\cdot n!}\right)$$

$$d_{n+1} = n\cdot d_n + d_n + (-1)^{n+1} \overset{*}{=} n\cdot d_n + n\cdot d_{n-1} + (-1)^n + (-1)^{n+1}$$

$$= n(d_n + d_{n-1}) + \underbrace{(-1)^n + (-1)^{n+1}}_{0} = n(d_n + d_{n-1})$$

Warunki brzegowe : $d_0 = 1$, $d_1 = 0$