48. feladat

1: halastó 2: hagyászló 3: csúszdapark

$N = \{1,2,3\}$

A karakterisztikus függvény:

$$v(S) = \begin{cases} 5 & \text{ha } S = \{1\} \\ 0 & \text{ha } S = \{2\} \\ 0 & \text{ha } S = \{3\} \\ 10 & \text{ha } S = \{1,2\} \\ 15 & \text{ha } S = \{1,3\} \\ 0 & \text{ha } S = \{2,3\} \\ 15 & \text{ha } S = N \end{cases}$$

$n = 3$ $\qquad \gamma(|S|) = \dfrac{(|S|-1)!\,(n-|S|)!}{n!}$

$$\gamma(|S|) = \begin{cases} 1/3 & \text{ha } |S| = 1 \\ 1/6 & \text{ha } |S| = 2 \\ 1/3 & \text{ha } |S| = 3 \end{cases}$$

$$\gamma(|1|) = \frac{0! \cdot 2!}{3!} = \underline{\underline{\frac{1}{3}}}$$

$$\gamma(|2|) = \frac{1! \cdot 1!}{3!} = \underline{\underline{\frac{1}{6}}}$$

$$\gamma(|3|) = \frac{2! \cdot 0!}{3!} = \underline{\underline{\frac{1}{3}}}.$$

$$\Phi_i = \sum_{i \in S \subseteq N} \gamma(|S|)\,(v(S) - v(S \setminus \{i\}))$$

$$\Phi_1 = \frac{1}{3}\cdot(v(\{1\}) - v(\{\emptyset\})) + \frac{1}{6}\cdot(v(\{1,2\}) - v(\{2\})) +$$

$$+ \frac{1}{6}\cdot(v(\{1,3\}) - v(\{3\})) + \frac{1}{3}\cdot(v(\{1,2,3\}) - v(\{2,3\})) =$$

$$= \frac{1}{3}\cdot(5-0) + \frac{1}{6}\cdot(10-0) + \frac{1}{6}\cdot(15-0) +$$

$$+ \frac{1}{3}\cdot(15-0) = \underline{\underline{\frac{65}{6}}}$$

$$\Phi_2 = \frac{1}{3}\cdot(v(\{2\}) - v(\{\emptyset\})) + \frac{1}{6}\cdot(v(\{1,2\}) - v(\{1\}))$$

$$+ \frac{1}{6}\cdot(v(\{2,3\}) - v(\{3\})) + \frac{1}{3}\cdot(v(\{1,2,3\}) - v(\{1,3\})) =$$

$$= \frac{1}{3}\cdot(0-0) + \frac{1}{6}(10-5) + \frac{1}{6}(0-0) +$$

$$+ \frac{1}{3}(15-15) = \underline{\underline{\frac{5}{6}}}$$

$$\Phi_3 = \frac{1}{3}\cdot(v(\{3\}) - v(\{\emptyset\})) + \frac{1}{6}(v(\{1,3\}) - v(\{1\}))$$

$$+ \frac{1}{6}\cdot(v(\{2,3\}) - v(\{2\})) + \frac{1}{3}\cdot(v(\{1,2,3\}) - v(\{1,2\})) =$$

$$= \frac{1}{3}\cdot(0-0) + \frac{1}{6}\cdot(15-5) + \frac{1}{6}\cdot(0-0) +$$

$$+ \frac{1}{3}(15-10) = \frac{10}{3} \Rightarrow \Phi(v) = \left(\frac{65}{6}, \frac{5}{6}, \frac{20}{6}\right)$$ ☐

um dos dias